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- XXXI.—Selected Design for New Municipal Buildings, Stepney, London, B. (Briggs, Wolstenholme and Thornely, Architects), July 7.
- XXXII.—New Municipal Buildings, Stepney, London: Design placed second (Granger and Leathart, Architects), July 7.
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- XLIII.—Southport Cottage Hospital (H. Percy Adams, F.R.I.B.A., and Charles Holden, A.R.I.B.A., Architects), Aug. 18.
- XLIV.—Union Bank of Manchester, Piccadilly, Manchester (Thos. Worthington and Son, Architects), Sept. 15.
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- II.—Business Premises, Golden Square, London (Leonard Stokes, F.R.I.B.A., Architect), Nov. 3.
- III.—New Police Buildings, Stockport: Parade Room Doorway (Halliday and Paterson, A.A.R.I.B.A., Architects), Nov. 3.
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- VIII.—Racecourse Stand, Cheltenham (Chatters and Smithson, Architects), Nov. 17.
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- XXV.—Hall of Philosophy, New York University (Crow, Lewis, and Wickenhoefer, Architects), Nov. 17.
- XXVI.—Entrance to Commonwealth Trust Building, New York (Parker, Thomas, and Rice, Architects), Dec. 1.
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- XVIII.—New Entrance Porch, 31, Rodney Street, Liverpool (Frank Rimmering, Licentiate R.I.B.A., Architect), July 21.
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- XXII.—XXIII.—"Feathercombe," Hambledon, Surrey (Ernest Newton, A.R.A., F.R.I.B.A., Architect), Sept. 1.
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(From Piranesi.)

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EDITORIAL.

CONCERNING the Stepney Municipal Offices competition, to which, in text and illustration, considerable space is devoted in this week's issue, it is unnecessary to add much to what has been set down by the eminent architect to whom we are indebted for a scholarly criticism of the exhibited designs. At least one of his points deserves such emphasis as repetition can give it. He seems to think that the classical teaching of the architectural schools has reached its apotheosis at Stepney—or, rather, at the Whitechapel Art Gallery, where the designs were exhibited. Almost without exception these 170 designs showed quite definitely and unmistakably the predominating influence of the schools. In how many instances that influence has been direct, or in how many it has, so to speak, filtered through publications in which the work has been illustrated, is a matter of small importance; but in congratulating the schools upon this notable triumph of their teaching, we can hardly refrain from expressing at the same time the satisfaction we feel that this Journal was the first to give decisive, constant, and consistent support to the movement that has been so signally vindicated in recent competitions, and especially in that of the Stepney municipal buildings.

* * * *

In taking this decisive line, we were stimulated by the belief that the newly organised schools had at length attained to a clear perception of educational needs, and were equally clear as to the best method of meeting them. In resolving to concentrate upon Classical ideals, the schools had some such perception of the necessity of definite purpose and undivided aim as that which is forcibly if rather turgidly expressed in a communication which has just reached us from the Association of Old Students of the Royal College of Art. "Complete unity of purpose," the Old Students observe, "is the essential desideratum towards fostering and encouraging a more widespread appreciation of the benefits and advantages accruing from the development of a deeper artistic sense, as well as to hold an increasingly high and worthy position amongst civilised nations to which the country is entitled." It is unity of purpose that, bringing order out of chaos in the architectural schools, has initiated a forward movement of which the character of the designs in the Stepney competition is a significant portent.

* * * *

Critics of the Stepney designs have raised an interesting point as to environment. They seem to be generally agreed that nearly all the designs were too grandiose for poor Stepney! That, on the face of it, is rather a hard saying, and one would

fain moderate upon its severity. Adaptation to environment may be (although there are those who strenuously deny it) a law in art as well as in natural science, but in any case its operations admit of considerable latitude. Surely it does not follow that because a district is squalid an important new public building should faithfully reflect the squalor. On the other hand—that is to say, in the opposite extreme—it would be bad manners in a building to flaunt richness in the face of poverty. To this extent the critics are in the right of it, and it would be mere perversity to assume that they would have us build meanly in the mean streets. They are merely advocating the sort of instinctive propriety that subdues or eschews grandeur where it would make too marked a contrast; a building that is out of scale and out of harmony with its surroundings being in effect a sort of monumental snob. Nor need concession mean degradation; nobility and simplicity being compatible if not synonymous. It may be added, as a matter of individual opinion, that we do not think the winning design transgresses the rule of propriety on which the critics have taken occasion to insist with such remarkable unanimity, although we agree with our contributor that some of the decorative details should disappear when the building materialises, as we trust it may do without undue delay, in spite of the war.

* * * *

That in these days of stringency and stress no less a sum than £5,460 should have been realised at Christie's for a portrait group by Sir Thomas Lawrence of "The Daughters of Colonel Carteret Hardy" is an announcement that will scandalise pessimists and discourage the enemy. Thus to hit two birds of evil omen with one stone is what Mr. Andrew Lang would have called a "separate ecstasy," supplementary and subsidiary to the main gratification. For surely the transaction marks strikingly the calm confidence in the future of our country with which every section of the community (the pessimists being negligible) is imbued. The purchasers being an eminent firm of art-dealers, it may be legitimately inferred that in paying this large price they were imbued with the courage of convictions based upon an astute survey of the prospects. Quite a respectable building could have been put up for the money; but this consideration will not greatly depress architects. Rather it should fortify them in the assurance that there is a good time coming, and that meanwhile "a thing of beauty" has still its "price in the market."

* * * *

It is shown, in a recently issued report of the progress of the Ordnance Survey, that the total cost of the survey of Ireland which was begun in 1887

and completed last August was £1,400,000, this sum including the expenditure upon the printing and publication of maps. Some sixty thousand pounds a year has been therefore spent on the collection of the data that are summarised in the maps of which the series for Ireland is now complete. There were, of course, earlier publications of Irish maps—in 1833, 1853, and 1871, for example. It is, indeed, an ancient art, that of the map-maker, and for the first examples of it we naturally turn to the Egyptians, who more or less accurately indicated, on tablets of wood, the lie of the land and the sea, the highways and some of the by-ways; Sesostris the king caused route-maps to be prepared; and a drawing on a papyrus in the Turin Museum identified by Birch as a topographical map of a mining district in Nubia is a thousand years older than the map of Anaximander, whom the Greeks considered to be the inventor of cartography.

* * * *

It was the Babylonians who "divided space and time" in a way that allowed scientific measurements to be made after the still customary method. They originated the division of the ecliptic into twelve signs, and later into 360 degrees; and the division of the circle into 360 degrees with 60 minutes to the degree and 60 seconds to the minute, as well as the corresponding division of the hour, was the outcome of their sexagesimal system of numeration. Hipparchus having, a hundred and fifty years before the Christian era, introduced this method among the Greeks, it was the geographer Ptolemy who three hundred years later gave it currency in his experiments in the ascertainment of geographical position through astronomical observation. To Greece, therefore, we owe the scientific development of map-making.

* * * *

For purposes of military or political administration, maps were common among the Romans, who, however, seem to have done little or nothing to advance the science of map-making. A map of the world was painted in a portico at Rome, and in the temple of Tellus there was some sort of a map of Italy. Under Domitian a map of the Roman Empire was drawn up, and the emperors of the second, third, and fourth centuries caused maps to be painted on the walls of public buildings in the cities of Gaul; but the only Roman map of the Imperial epoch that has come down to us is the *Tabula Peutingeriana*, which is preserved in the Imperial Library of Vienna. An old Roman map, probably, was copied when the Germans, in 1460, produced the oldest existing map (now in the National Library, Paris) printed from a wood block. Mercator, though born in Flanders, in 1512, was of German parentage, his name being Gerhard Kramer (= shop-keeper = mercator). He completed, at Louvain, in 1540, a map of Flanders in nine sheets, and his map of Europe (1554) laid the foundation of his fame as a cartographer, which in 1569 reached the highest eminence with the production of his map of the world, of which there is a copy in the National Library at Paris.

* * * *

Humphrey Lhuyd produced in 1569 the first "modern" map of England; and Christopher Saxton published in 1575 a British atlas of thirty-six sheets. As, in order to this achievement, he had travelled in various parts of the country in company with several engineers, he may be credited as the first of our cartographic surveyors. But surveying and map-making were revolutionised by the invention of the telescope (say in 1606),

Galileo's astronomical discoveries of 1610, Cassini's calculations of the periods of rotation of Jupiter's moons, so important for determinations of longitude (1666), the first application of trigonometry to geodesy by Snellius (1615), and by Picard's measurement of a degree between Paris and Amiens, in 1669-70. It was France that, in 1750, set the example of a geodetic survey at the expense of the State. Twenty years earlier the Frenchmen who made a survey of China were the first to discard the astronomical and adopt the trigonometrical basis; and the latter method was of course adopted in the great survey of India which was begun in 1800 by Major Lambton. Surveying, being largely in the hands of the military, is not likely to be much curtailed on account of the war; and it is a matter to which one likes to see architects give up some considerable portion of their salad days, if for no better reason than that it takes them afoot and afield, to the benefit of their health and the sharpening of their perception.

The Building Industry and the War Loan: A Patriotic Example.

To the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.

SIRS,—In view of the fact that your paper has such an extensive circulation amongst architects, builders, and contractors, who are deriving great benefits from the activity in the building world due to war contracts, would it not be suitable for you to instigate a campaign among such firms, encouraging them to invest in the War Loan a goodly portion of the profits they have derived from war contracts? In my opinion there are two very good arguments for such investment.

In the first place, a purchase of this war stock is a concrete example of patriotism. Actions count much more than words or feelings.

In the second place, such an investment indicates a business ability on the part of the investor. In a very modest way I have been investing moneys for the past several years, and a careful study of securities has never disclosed to me one which offers greater attractions than the War Loan.

At a special meeting of my directors this morning I secured their permission to invest our entire reserve account of £10,000 in this loan. In addition to this, the members of my engineering staff have given me permission to invest for them in the loan the war bonus we are paying them equal to 10 per cent. of all the salaries earned during the year. I should feel that I had done some little service if my suggestion of your instigating a campaign proved fruitful.—I beg to remain, yours faithfully,

MORITZ KAHN,

Managing Director of the Trussed Concrete Steel Co., Ltd.

July 2nd, 1915.

[We very willingly give special prominence to what can only be regarded as an announcement of great interest and importance. From the outbreak of the war, the firm indicated has made many sacrifices in the interests of our country, and is, we believe, treating with exemplary consideration the many members of its staff who are serving with His Majesty's Forces; but its present action is an even more remarkable manifestation of practical patriotism. To pool the country's energies and resources is, as we have clearly recognised and frequently urged, a necessity of the times; and, so far as we are aware, Mr. Kahn's firm is the very first to give practical effect to the theory. It is an excellent lead, which, loyally followed, cannot fail to produce consequences of substantial value to the cause.]

HERE AND THERE.

IN setting out the plans of houses there would appear to be a common hallucination in the minds of architects that their clients are Japanese, that a solitary flower-vase, a small cabinet, and an ink-slab with writing brushes and a roll of paper will constitute the furniture of the dining-room, and that in the bedrooms nothing more formidable than mattresses rolled out on the floor will need to be taken into account. So comes about that anxious manœuvre of getting the dining-room table in, and the horrid thought that there will be no room for anything else. So, too, the complexities upstairs, where hope vanishes as the bedsteads are set up, and the precious light and air are alike shut out by the placing of the dressing table in the only available spot—in front of the window. It is perhaps with some such thoughts that a correspondent writes, in reference to a house which was illustrated in a recent issue of this Journal: "How curious it is that the most competent architects will persist in putting bedroom doors in the wrong position. If the positions of the beds are sketched in for the two central bedrooms on each of the upper floor plans, it will appear to most people, I think, that the doors should have been placed at the opposite end of the wall, adjacent to the fireplaces, in order to leave one end of each room free for a bed or a pair of twin beds." Sad to relate, this is perfectly true, and though there might come the rejoinder, "But what about the draught between the door and the fireplace?" it could be easily refuted by the obvious statement that for the greater part of their lives bedroom fireplaces are not sources of heat but a means of ventilation, and if, by reason of the smallness of the room, the opening or shutting of the door does blow the smoke into the room on the rare occasions when the fire is alight, a simple remedy can be found in a portable screen. All of which, of course, only serves to emphasise the necessity for architects always to sketch in the bedstead on the plan.

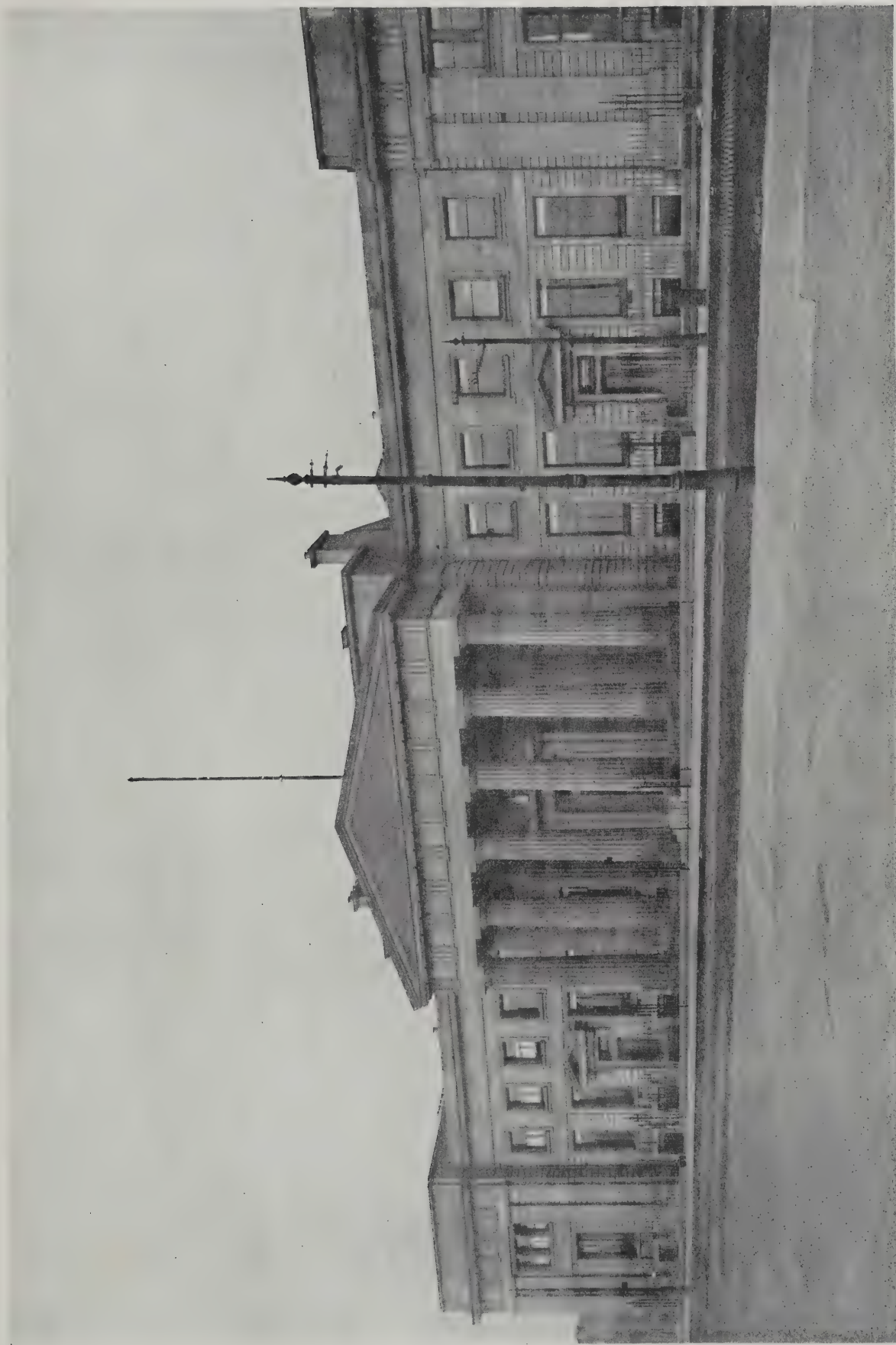
This question of doors is an old one, but old only in a comparative sense, for it would appear that our forbears of centuries ago did not worry their heads over such matters. In Merrie England men of oak slept on beds of straw. To-day we put men of straw in beds of oak. And an outrageous disregard of details in planning can be seen in many an old country cottage. Thomas Hardy, in that wonderful novel of his, "The Return of the Native," describes a little scene which very aptly illustrates the point. Eustacia Vye, disguised as the Turkish knight, and the other mummers have reached Mrs. Yeobright's house at Bloom's End. "The enterprising lady followed the mumming company through the gate in the white paling, and stood before the open porch. The house was encrusted with heavy thatchings, which dropped between the upper windows; the front, upon which the moonbeams directly played, had originally been white; but a huge pyracanth now darkened the greater portion. . . . 'Is there no passage inside the door then?' asked Eustacia as they stood within the porch. 'No,' said the lad who played the Saracen. 'The door opens right upon the front sitting-room, where the spree's going on.' 'So that we cannot open the door without stopping the dance.' 'That's it. Here we must bide until they have done, for they always bolt the back door after dark.' " And with that I will leave the matter.

The reference above to Japanese furnishing gives occasion for the following note on their mat floors: The straw mats, known as *tatami*, are laid on rough

boards and serve the double purpose of floor and carpet. In making them several layers of straw are first laid together and sewn with strong twine, until the proper thickness (about 3 ins.) is obtained. After that the mat is covered with a finer rush matting known as *goza*, which is smooth and clean and gives a very pleasant finish. Each mat is about 3 ft. by 6 ft., and the rooms of the houses are made to accommodate a certain number of mats, the size of the room being described as a six-mat room, a ten-mat room, and so on. The mats have to be re-covered every two or three years, and are therefore not so durable as carpets. But the *tatamiya*, or mat-mender, is always at hand, and repairs are soon carried out. The mats are taken out and beaten usually twice a year, in spring and autumn, the police giving the order when a certain street or district has to turn out and clean house. The *tatami* maker has to spend about seven years as an apprentice ere he is allowed to practise on his own account. For centuries the mats have been made by hand, but recently a machine has been invented for their manufacture. It is said, however, that the machine-made mats are not so satisfactory as those made by hand, as the packing of the straw is not so effective. To a foreigner the straw used for *tatami* seems far too dusty for use in dwellings; and some foreigners take hay fever from living on *tatami*-covered floors. But whether the straw mats are more dusty than carpets is a question, though the latter may be taken out and beaten more conveniently. The custom of having constantly to renew the *tatami* has given rise to the Japanese proverb: *Tatami* are like wives, the newer the better.

Everything is so serious that the simplest things make us furiously to think, and give rise to forebodings. Not a glass of ordinary water but is full of micro-organisms, not a breath of air but carries untold germs of dreadful diseases: so that there is nothing left but to sit in carbolic baths and draw in air through a respirator. And one is in the same serious state when it comes to putting thoughts into print. The power of the Press, the winged words, passing from continent to continent, influencing half the world. Surely a serious business! I once wrote a paragraph about red and blue conservatory glass which appeared in the corner of an architectural journal, from which obscurity it was carried by a paragraph-snipping sub-editor into the columns of the London daily having the largest circulation, and thence by the easy stages of the newspaper cutting agencies into a score of other newspapers in this country. Nor was its circuit then finished, for the little paragraph went abroad, and appeared once more in the "Times of India," the "Pioneer of Natal" and other "Skibereen Eagles" of the Colonies. One might find good reason to pause, then, before putting thoughts into type. But I believe the busy executioner does not soliloquise on his abrupt habit of terminating life, and the writer for the Press, hardened by the ceaseless call for more "copy," is reduced to a similar state of moral ossification. And yet, I suppose, if the executioner were to chop off a piece of himself, the seriousness of the business upon which he was engaged might suddenly become manifest. A letter which reaches me from a soldier-reader starts this train of thought. Here is a gallant Irishman lying in hospital reading through back numbers of this Journal, and asking for more! In view of this I must certainly be extremely careful. The dying Highlander in the ward asked as a last favour that the pipes should be played. They were. The Highlander recovered, but the other fifteen patients died. It may be kill or cure in my own case.

UBIQUE.

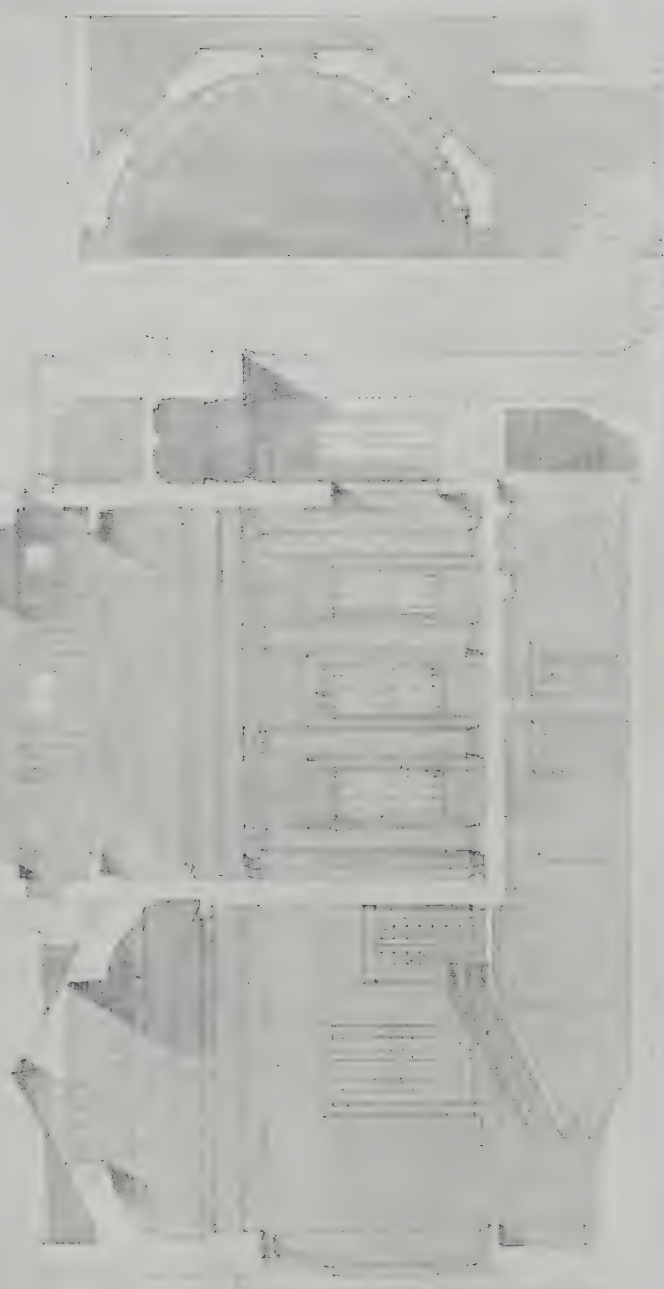


CURRENT ARCHITECTURE (SERIES II.). XXX.—NEW COURTS, JAIL SQUARE, GLASGOW.
CLARKE AND BELL, ARCHITECTS.

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MANCHESTER OLD TOWN HALL

Architects: Messrs. J. & W. G. Jackson



View of Town Hall

CROSS SECTION
AND PLANS
AT VARIOUS
LEVELS.

MANCHESTER OLD TOWN HALL. V.—CROSS-SECTION AND PLANS.
MEASURED AND DRAWN BY GORDON HEMM.

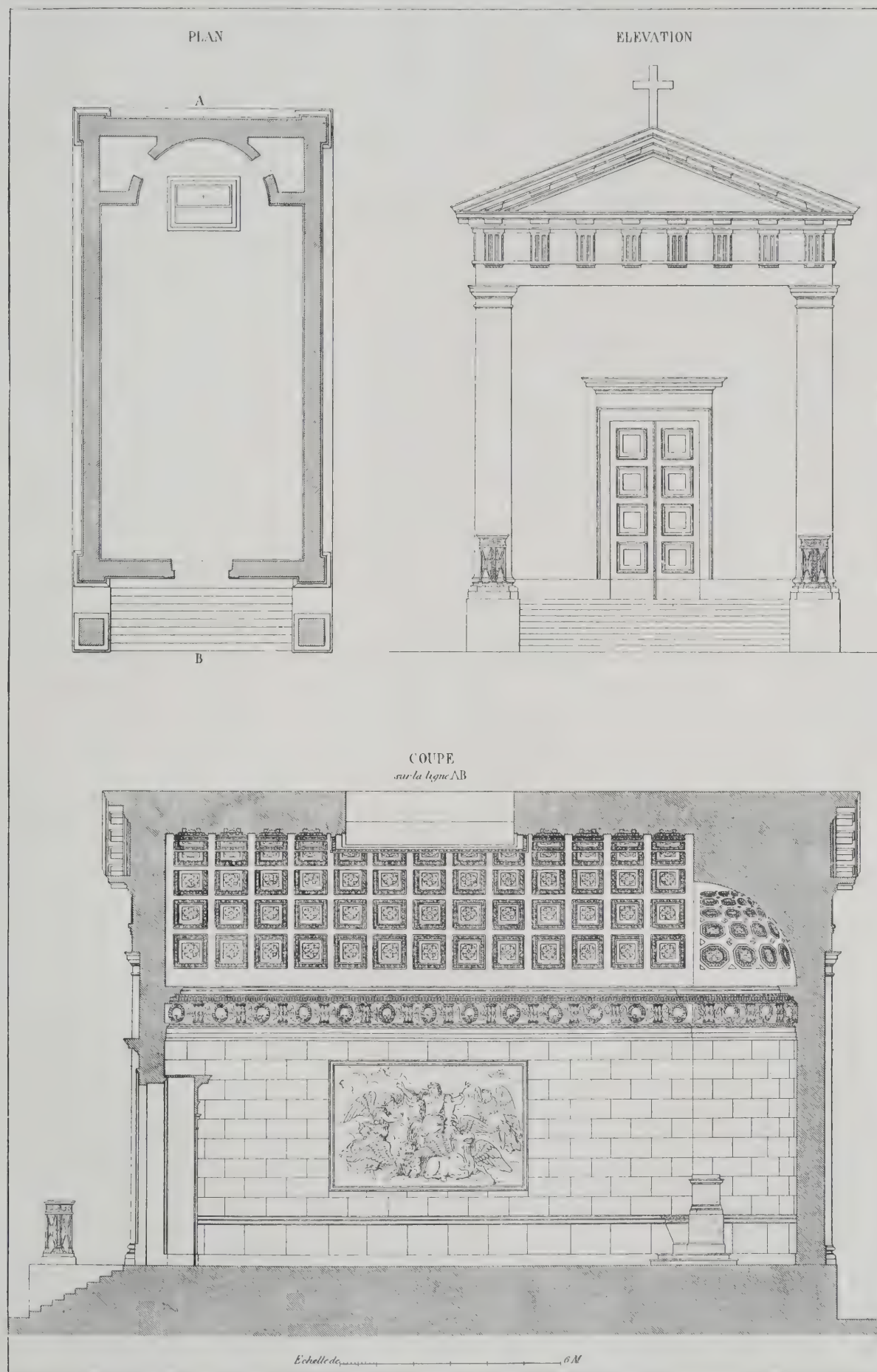
Photo by J. & W. G. Jackson

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DETAILS OF CRAFTSMANSHIP. XXV.—CHIMNEYPIECE IN HAREWOOD HOUSE, HANOVER SQUARE, LONDON. W.
(Now Demolished.)

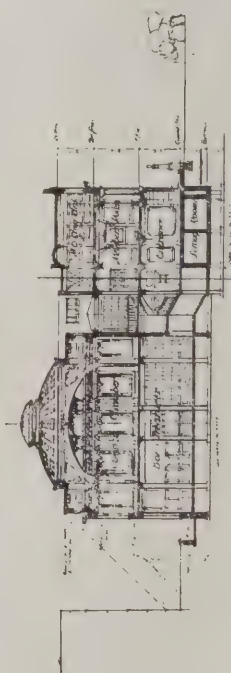
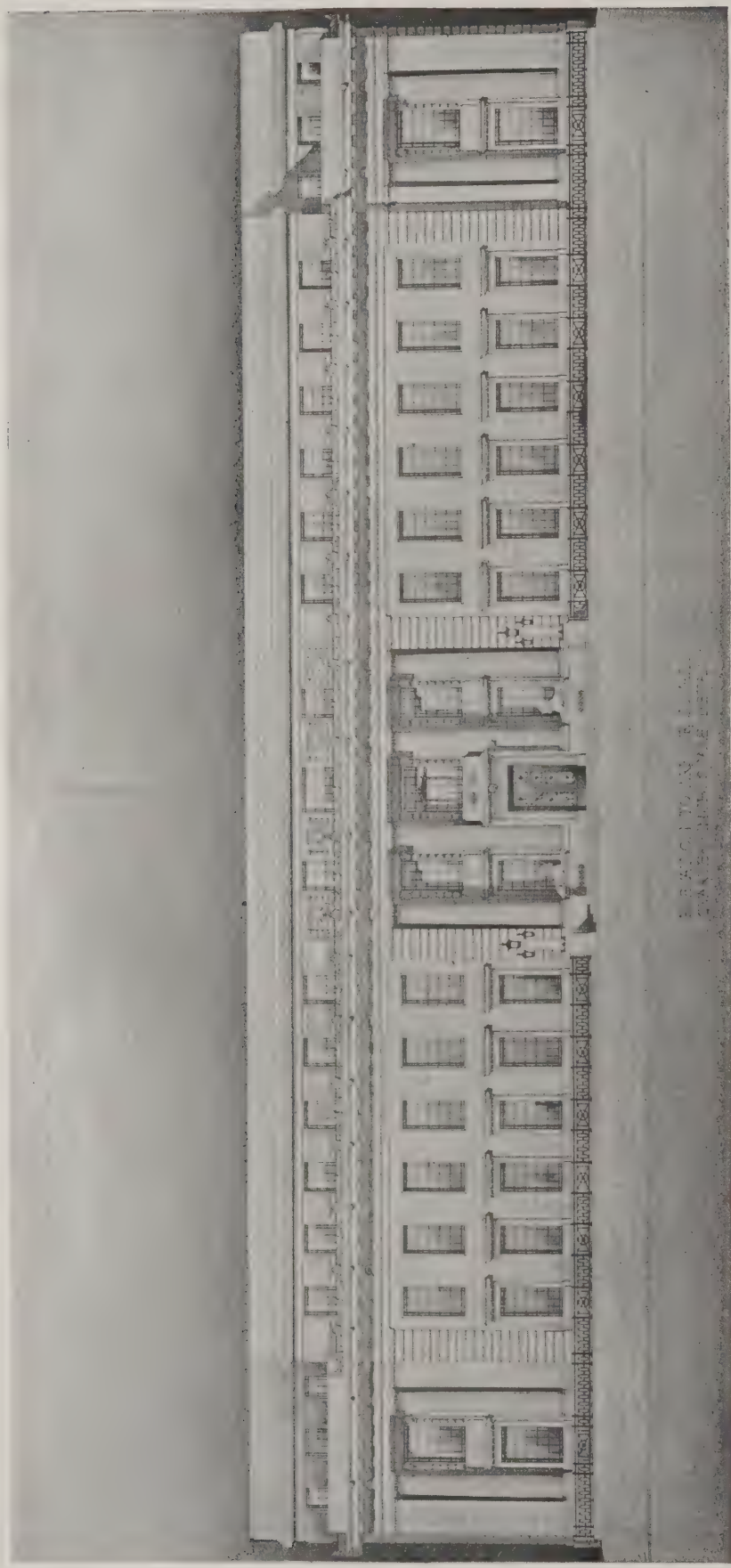
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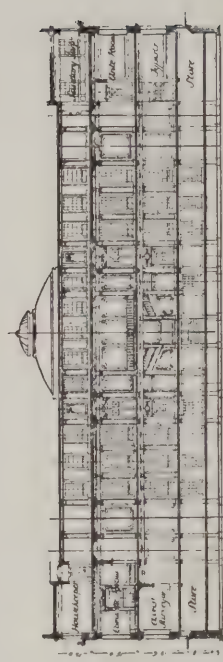
MONUMENTAL ARCHITECTURE. XLI.—CHAPEL IN THE CEMETERY OF PÈRE LACHAISE, PARIS.

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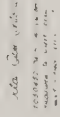


Section A-A



Section B-B

Borough



Lower Ground Floor and Basement Plan



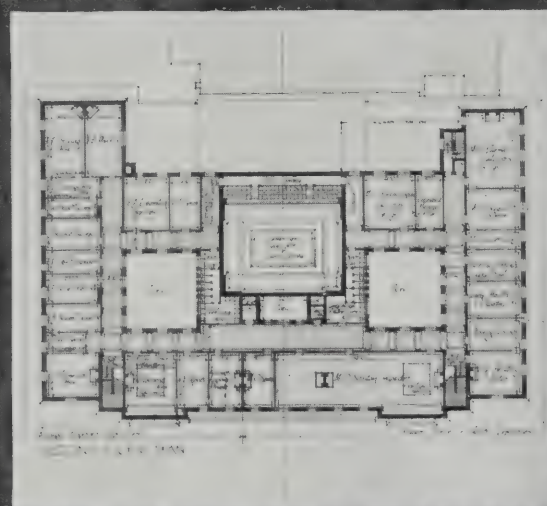
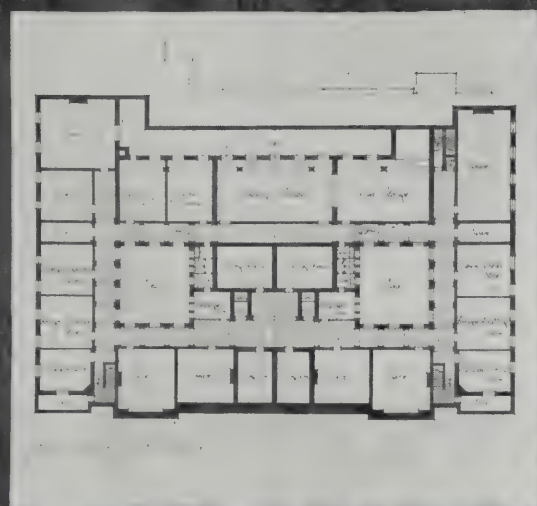
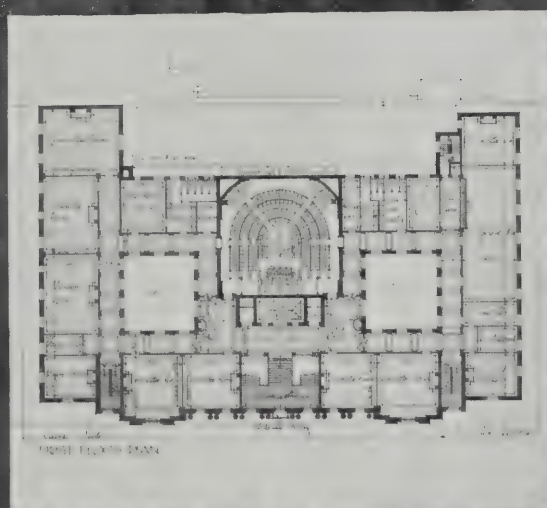
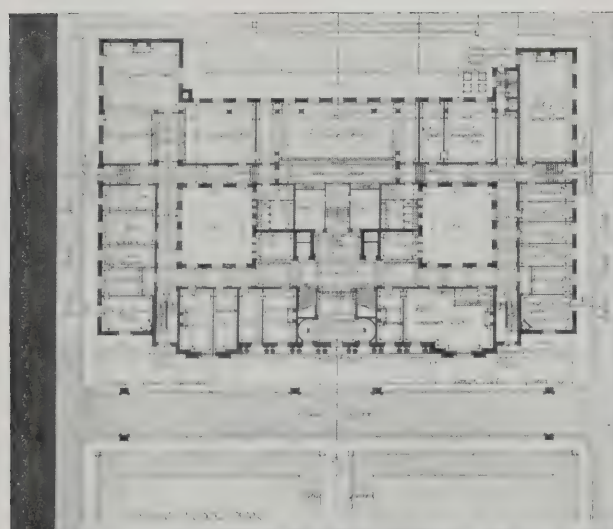
Second Floor Plan



Body of Book

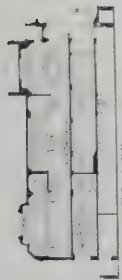
CURRENT ARCHITECTURE (SERIES II.) XXXI.—SELECTED DESIGN FOR NEW MUNICIPAL BUILDINGS, STEPNEY, LONDON, E. E.
BRIGGS, WOLSTENHOLME AND THORNELY, ARCHITECTS.

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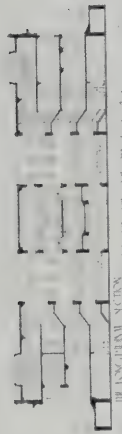


CURRENT ARCHITECTURE (SERIES II.). XXXII.—NEW MUNICIPAL BUILDINGS, STEPNEY, LONDON:
DESIGN PLACED SECOND.
GRANGER AND LEATHART, ARCHITECTS.

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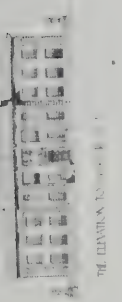
THE TRANSVERSE SECTION



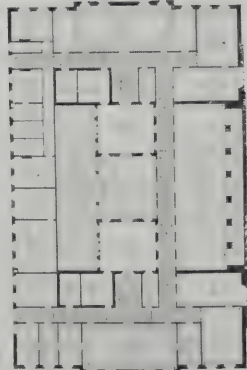
THE LONGITUDINAL SECTION



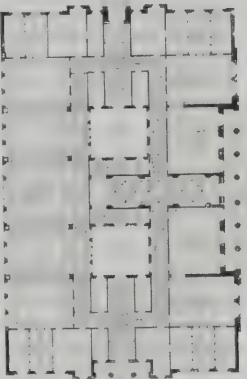
THE TRANSVERSE SECTION



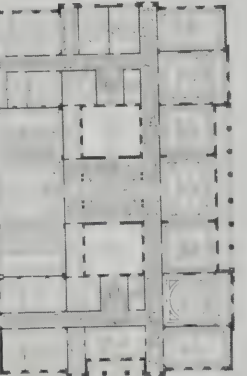
THE TRANSVERSE SECTION



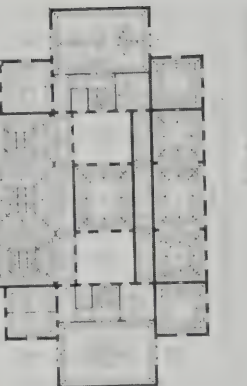
THE LOWEST GROUND FLOOR PLAN



THE GROUND FLOOR PLAN



THE GROUND FLOOR PLAN



THE SECOND FLOOR PLAN



THE ELEVATION TO THE SOUTH

THE ELEVATION TO THE NORTH

CURRENT ARCHITECTURE (SERIES II.). XXXIII. - NEW MUNICIPAL BUILDINGS, STEPNEY, LONDON: DESIGN PLACED THIRD.
AMBROSE POYNTER AND GEORGE WENYON, ARCHITECTS.

THE PLATES.

Justiciary Courts, Glasgow.

THIS new building stands upon the site of and the façade follows the style of the old building erected in 1810 and recently taken down. The only portions remaining of the old building are a part of the shafts of the main columns and their foundations. The main front is in Saltmarket Street, facing Glasgow Green. The interior arrangements shown by the plans below, from which it will be noted that the building is exceptionally well lit. A very limited number of cells existed below the ground-floor level in the old building, but by raising the level in forming the new floor a good basement has been obtained, providing ample police accommodation, including warders' rooms, kitchen, stores, etc., and heating and ventilating apparatus. On the ground floor are two large courts for High Court trials, numerous rooms for advocates, counsel, magistrates, witnesses, jury, and officials of the Court, while on the upper floor is a small court for Sheriff summary trials, with retiring and witness rooms; also luncheon and dining rooms and service accommodation, and rooms for the house-keeper. Heating is by low-pressure hot water with radiators and fresh-air inlets throughout; in addition, in the two courts fresh warm air is forced in by centrifugal fans.

Manchester Old Town Hall.

This plate completes the series of general views of the building, preparatory to the consideration of the details. These latter, as will be seen from forthcoming plates, are of great excellence.

Chimneypiece in Harewood House.

Harewood House, Hanover Square, was pulled down some years ago, but fragments of its interior decoration were saved, and some of them can now be seen in the Victoria and Albert Museum, South Kensington. The building was not one of Robert Adam's complete designs, as he was only called in to alter and embellish an existing house, but certainly the interior work was worthy of his name. The chimneypiece which we illustrate was in the "eating-room." Its embellishment is very characteristic of Adam's manner.

Cemetery Chapel, Père Lachaise, Paris.

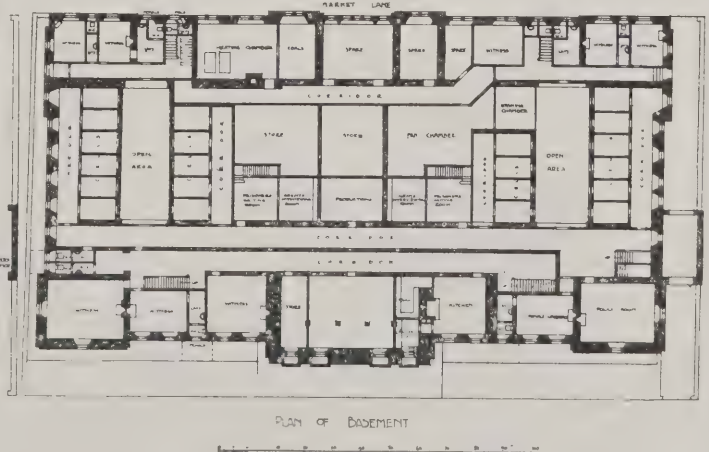
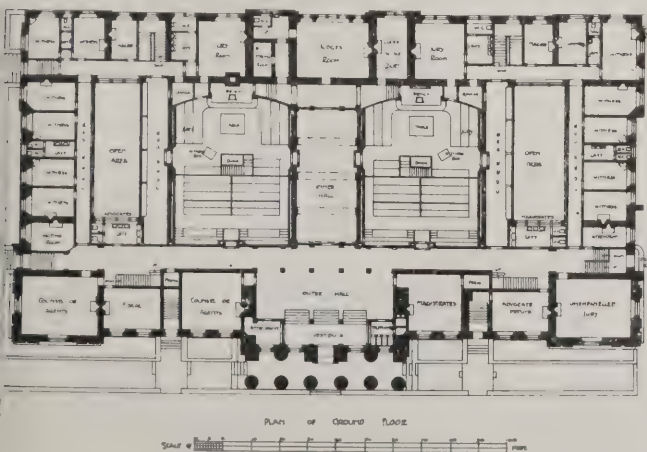
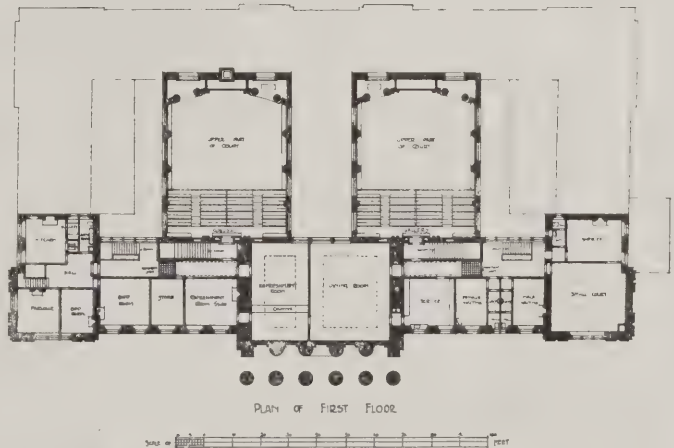
This stands on the high ground above the main entrance to the cemetery. The exterior is a scholarly piece of classical design; the interior displays a rich coffered ceiling. The building dates, we believe, from the first decade of the nineteenth century. Adjoining it is another chapel, erected later as a monument to Thiers.

Designs for Stepney Municipal Buildings.

These are referred to in the critique of the competition on page 8.



THE CHAPEL, CEMETERY OF PÈRE LACHAISE, PARIS.



NEW JUSTICIARY COURTS, GLASGOW.

CLARKE AND BELL, ARCHITECTS.

THE RECONSTRUCTION OF BELGIUM—IV.

[SPECIALLY CONTRIBUTED.]

V.—Construction.

THE question of construction is as complex as it is delicate, involving, as it does, the rights of private property, the privileges of various administrations, the public safety, the public health, the immediate necessities, and public and private finance.

We have already dealt with the financial aspects of the question within the limits of this study; we shall not touch upon the rights of property nor those of public bodies which go beyond those limits. Our observations shall be limited to those considerations of public safety (*securité générale*), public hygiene, and of immediate necessity, which are inseparable because they call for prompt and practical solution. From the point of view of public safety, works of construction in Belgium are governed by a series of general, provincial, and communal regulations which prescribe the thicknesses of walls, the employment of certain materials, and the height of buildings. They include certain prohibitions as to projections over public ways. The observance of these regulations is more especially the concern of architects and engineers. What more immediately concerns us now is the obligation to use hard materials for the roof-coverings and for external walls, bricks for party walls in the towns and suburbs.

With respect to sanitation of private buildings the Belgian authorities insist on certain strict conditions regulating the construction and disposition of cisterns, drains, cesspits, and stables. Other hygienic regulations are imposed by special decisions arising out of powers conferred by Belgian law upon burgomasters and given as circumstances require, always taking into consideration any ascertained progress made by the science of hygiene or any improvements effected in hygienic materials or products.

The various public health authorities are not tied down to any fixed general rule. They are stimulated the one by the other, and are sensitive to foreign example. The Communes are to some extent actuated by the fear that their inhabitants would migrate to other districts having purer air, greater cleanliness, a superior water supply, a more efficient sewer system, more open spaces, or better provided with public baths and washhouses, etc. These points should make a direct appeal to British manufacturers of all kinds of sanitary wares.

It must be kept in mind that a great number of Belgian towns and villages have been destroyed by the German troops, and their environs converted into charnels. In order to minimise—if possible, to prevent—the epidemics that ensue upon war, it is essential that the public authorities shall exercise the utmost vigilance and severity in administering the regulations relating to public health. This is a point that our British friends are in a position to appreciate. Of the incontestable superiority of British sanitary installations and materials we have already made due acknowledgment; and it only remains to advise them to prepare to meet the large and urgent demand for their excellent products, which must arise in the near future, immediately following the advance of the Allies.

It is unnecessary to refer particularly to the sanitation of factories and workshops. To these the ordinary rules with regard to the sanitation of buildings equally apply. They are, moreover, in the interests of the public health and the safety of the workers, subjected to strict surveillance and regula-

tion, and are liable to be closed down by the authorities if the orders of the public authorities are infringed.

What is of more immediate concern is the speed of provision for the Belgian people of new habitations to replace those which have disappeared.

Shall this be done by means of provisional buildings erected on the outskirts of large towns or in the country in order to respond to the most urgent needs, viz., those of workmen and agricultural labourers? Or shall the permanent reconstruction take place at once?

We think it safe to assume that having regard to the disappearance of all materials and primary products it will not be possible immediately to find in Belgium the means for constructing provisional buildings.

To obtain from abroad in large quantities the materials needed for that will cost as much as to import materials suitable for permanent reconstruction, but after a provisional reconstruction there would still be required a permanent one, involving thus a double expense, which might be avoided and the money thus saved applied to other things. For these reasons of practical economy we consider that the idea of a provisional reconstruction must be abandoned.

For permanent structures, then, it is necessary to obtain materials, bricks, tiles, cement, etc., conforming in every way to the custom and prescription of the Belgians. Of such materials the cost will be proportioned to their scarcity and to the exigencies of rapid transport. Hence arises a problem that is difficult of solution when the main object is to find the ways and means of building with the least possible delay a great number of low-rent dwellings, to be occupied as fast as they can be got ready. These dwellings must be of several types, to meet the various requirements of town workers, factory hands, rural labourers, clerks, small tradesmen, etc.; they must be of up-to-date sanitation; they must have due regard to the decencies of family life and, in certain instances, must show a due consideration of æsthetic character.

Taking into account the stringency of the Belgian by-laws, any novel means or new materials of construction should be submitted to the public authorities for approval. But, in the present circumstances these by-laws are likely to be enforced in the spirit rather than in the letter, public health and safety being their essence. New materials and methods therefore, ought to be admitted, providing they meet the essential conditions of (1) soundness of construction, (2) fire-prevention, (3) healthiness.

When it became necessary to establish fresh military zones around the unfortunate city of Antwerp the use of wood for the temporary buildings was abandoned in favour of more modern materials of construction, which provided structures that, while solid and substantial, were nevertheless easily removable. It appears to us that these new methods, which, to judge from their very general employment on that occasion, must be very well known, could be so far perfected as to fulfil satisfactorily all the requirements of safety, sanitary efficiency, low cost, and rapidity of construction.

VI.—Commercial Organisation.

When the most urgent needs of the situation have received attention, British manufacturers and merchants should address themselves energetically to the maintenance and development of their new commercial relations with Belgium. Personal visits to the new clientèle and personal superintendence of the work are highly desirable if competition is to be

revented or successfully met. But British manufacturers and merchants trading to every part of the globe cannot be expected to pay these personal visits. They may delegate this work to active and intelligent agents who are already on the spot, will make themselves thoroughly conversant with the character of the goods, will watch the market, keep closely in touch with buyers, foreseeing their wishes, divining their requirements, checkmating and neutralising the manoeuvres of competitors, frequenting official circles, furthering the interests of their employers by attentive and discreet solicitude among the clients, and furnishing their employers with timely advice as to changes in the commercial situation or in the trend of taste and fashion.

British merchants will have no difficulty in finding such agents. Most of those who formerly represented German houses will naturally be glad to become the agents for goods that are not "made in Germany." The Belgians are firmly resolved to break off all commercial and industrial relations with Germany and to boycott all German goods.

In order to have and to retain a good agent it is necessary to pay him a good commission or to give him an interest in each transaction of such a kind that the result of it may not be a matter of indifference to the agent, as may be the case in a simple operation of commercial brokerage.

We will cite an example of agent's remuneration.

The manufacturer fixes for his agent the lowest and the highest selling prices at which orders for merchandise can be accepted in quantities, within reasonable limits, without it being necessary for the agent to ask him for special instructions or obtain particular authority.

The minimum and maximum commissions are fixed, but for prices realised between the extreme price limits the commission is progressively augmented.

In order to interest the agent in the good result of business entered into through him and to induce him to keep an eye on the commercial standing of clients, the manufacturer allows a bonus or special commission upon the total of all accounts paid at due dates agreed at the time the business was concluded.

We cite this example because we had occasion to follow the proceedings of a manufacturer and his agent over several years and to remark the results which accrued to each of them from an agreement of this kind.

Moreover, the manufacturer should treat his skilful agent as a colleague and collaborator rather than as a paid employee. The agent, in constant and hourly touch with his clients, discusses with them the merits and defects of the goods, vindicates them when they come into comparison with competitive articles, scrutinises and reports upon any novelties that may be introduced by trade rivals, notes any suggestions that may be made by the consumer, studies the various methods of construction, examines plans and contract schedules, gets into conversation with the architects, engineers, and corporation or works officials, gets about from place to place as occasion may require. The agent, in short, does everything in the way of ascertainment and suggestion that can promote the interests of the firm he represents.

We have all known firms who owe their prosperity to the energy and intelligence of their travelling agents, while, on the contrary, there have been many instances of firms that have been ruined by parting from their agents; for while there are cases in which the product is purchased on its quality and reputation, there are others in which the personality of the agent is the factor that carries chief weight with the purchaser.

The manufacturer or merchant should allow his agent considerable liberty of action. For example, the agent should not be strictly forbidden to deal in goods

supplied by other firms. It sometimes happens that a contractor engaged simultaneously on different jobs will be required by the different schedules to obtain goods from specified makers and will ask the agent to quote for them all, and if he may not do this he may lose not only the order for the goods for which he is agent, but the client also. Occasionally, also, in order to bring off a diplomatic deal, the agent may deem it politic to reduce the price of the goods below the agreed minimum by the amount represented by his commission on it. In such instances he should incur no reproach, because the vendor suffers no injury; the loss falls upon the agent, who thus voluntarily forfeits his commission on the transaction.

The agent should be able to supply very useful information as to the commercial standing of the old and new clients of his firm. Similar information is supplied by special bureaux, but the wide-awake agent is in a position to render more complete and confidential advice. He ought also, as far as possible, to keep a watchful eye on competitors and to report with prudence and discretion every movement that his own firm may be able to turn to profitable account.

A word or two about advertising. All the journals have pages set apart for advertisements, and announcements are sometimes included in the news columns. There are other means of advertising—by calling or attending meetings and giving public demonstrations; by means of bill-posting; by means of circulars; by taking part in the various exhibitions, great and small, periodical or permanent, by demonstrations in places where the product is most likely to attract general attention; by organising visits to the workshops or showrooms in which the goods are produced or displayed; by depositing the products in the commercial museums that are found in the more important towns of Belgium; by personal visits to consumers, with whom the conversation will turn lightly on the commodity on offer; above all, by the recommendation of users, which, backed up by other means, is a most effectual form of advertisement.

The Germans have clearly recognised the power of advertisement. Glancing through the technical journals of Belgium, it is astounding to note how many of the advertisements are of German origin. Again, in visiting the Belgian commercial museums, or the sample-rooms established by certain associations of contractors (*Chambres Syndicales d'Entrepreneurs*), it has been a common experience to find that the German exhibits have outnumbered all other foreign products put together.

There exist in Belgium, in all the chief towns, powerful associations (*Chambres Syndicales*) of contractors, of architects, and of engineers. These institutions may all be turned to account in introducing and popularising British products, and from them may be obtained much valuable information for the guidance of British manufacturers and merchants.

VII.—Conclusion.

We have endeavoured to show that the psychological moment has arrived for a strenuous effort to bring British traders and Belgian consumers into close relationship. With this object we have set forth not only the requirements and the business usages of Belgium, but also some of the difficulties of the position. These difficulties are by no means insuperable. British ingenuity and enterprise should be easily equal to the occasion. But our British friends must beware of the insidious commercial and industrial methods of the Germans. It is necessary to prepare for very fierce commercial warfare, and to counteract every species of manoeuvre and trickery, including excessively low or cutting prices, the erection in neutral countries of factories or agencies run under false names, the use of false marks of origin, and the disguise of the product in every possible way.

STEPNEY MUNICIPAL BUILDINGS COMPETITION.

TO visit an exhibition of competition designs is of great educational value, and is to be enjoyed in varying degrees according to whether one has taken part in the contest or has had the moral courage to abstain from it. If one makes such an inspection as a beaten competitor one's judgment is almost necessarily—although that, indeed, is a matter of temperament, some men being most keenly sensitive to their own shortcomings—biased against the points of every other work but one's own. To an ordinary critic, making a casual survey, the display of concentrated energy on the walls is enervating, and at least an hour must pass before attention can be properly focussed on the respective merits of the works.

Competitions seldom offer an occasion for congratulation. Generally speaking, one is perturbed in mind as to the ethical side of the question. Remembering that the whole subject of architectural competitions is controversial, and that the wisdom of appointing one man, however eminent, to adjudicate on the works of his brother professionals is open to serious question, it is remarkable how many talented architects are content to stake their time and ability on contests which are ruled to an appreciable extent by the element of chance.

The equitable conduct of the architectural competition is still a moot point, as the brilliant paper on this subject which Mr. Lanchester recently delivered at the Institute clearly demonstrates. The smallest competition may draw an entry of at least a hundred competitors, and the aggregate cost of producing the designs is out of all proportion to the results achieved. Yet, despite the numerous disadvantages of the present system, many architects have found it the means of emerging very definitely from comparative obscurity.

Of the competitions held in recent years it would be difficult to single out an instance of real architectural value accruing to the State, although improvements in planning, from the strictly practical side, have unquestionably resulted. The jury system, provided it does not get into the hands of cliques and factions, is an excellent one, and should be adopted forthwith. An evil which needs instant redress is one which directly affects the pockets of competitors. Instead of the large premiums usually allocated to the first three premiated designs, these amounts should be reduced by at least a third, and the first twenty or thirty competitors, following those receiving the larger premiums, should be guaranteed fifteen pounds each, the remainder of the competitors who enter a reasonable set of drawings to receive five pounds each to cover incidental expenses. If this course were adopted a higher standard of work would be reached and much chagrin avoided. It will be as well to add that the total cost to a municipality of a competition conducted in this way would not greatly exceed the sum usually expended when big premiums are offered for the first three or four premiated works.

The Stepney competition has called forth the energies of a hundred and seventy architects, of whom, presumably, many have been deprived of their ordinary business by the exigencies of the war, and it has resulted in unprecedented keenness and determination to approach the problem in a logical manner.

Careful analysis of the various sets of

drawings shows not only a concerted desire to promote the essentials of the Classic school, but a real grasp of the attributes of reasonable planning and a brilliancy of draughtsmanship which is distinctly of a higher order than that commonly seen in competitions. In this competition all ranks of the profession have met on the same ground, the eminent practitioner and the aspiring student—a fact which, in view of the war, tells its own tale. Evidently the English Classic tradition, as well as the French and the American, has been studied with a definite aim, the motifs ranging from the period of Louis Quatorze to the models of Gandon and Elmes. This procedure is in itself an earnest of scholarly ambition, and forecasts the lines on which, in the future, the vernacular will be developed.

Classic architecture on pure and scholarly lines is undoubtedly in the ascendant, and although this is not the time (neither is it at any time good) to indulge in self-congratulation, it must be admitted that the teaching of the architectural schools is more than ever apparent in the majority of the works submitted in this competition, and it follows that acknowledgment is due to the leaders of thought who have persistently striven to instil in the younger men an appreciation of the advantages of academic study. Yet in spite of such deserved encomiums one is nevertheless forced to express the opinion that the two best designs submitted for the Stepney municipal building have not received a premium, or even recognition. These two designs will be dealt with more fully a little further on. Another point which must be insisted upon is that the majority of the competitors failed entirely to realise the *genius loci* of the site and its surroundings and were tempted to evolve grandiose schemes more suited to the centre of a capital than to one of its humble boroughs; and one is tempted to suppose that these competitors attached more importance to a good result on paper than to a careful study of the locality. It is also a matter for surprise how few valued the elementary principles which govern character in design. In the traditional work of the great periods of architecture, despite the tendencies of style and fashion, true character is seldom absent from the individual works, however diverse their object or purpose. The correct importation of character belongs to the subtleties of architectural design, and it cannot be expected that those qualities which took centuries to acquire, and an age to forget, should be picked up or set down promiscuously. Time alone will restore such attributes as simple composition and true character. Any pre-determined attempt to impart character to a structure only results in an appalling self-consciousness in the design; which remedy is the greater evil. Character can only result from earnest and consistent study, and will spring up almost unannounced amidst the labours of those artists who give their lives to their work.

And now to speak of those designs which stand forth above the others, in their order of merit.

The design which adequately meets all the conditions of the competition, as well as satisfies the important considerations of character and suitability to the site, is No. 116, by Messrs. Adshead and Ramsey, shown in a series of delicate drawings and an admirable detail elevation. From a plan standpoint this scheme is logical and simple, the circulation is perfect, the stair-

case is in the correct position, and the departments are beautifully adjusted and balanced in relation to the council chamber, which has been considered as the focal point in the plan. The elevations are reminiscent of the best French models of the early nineteenth century, and the imagination which prompted the outside staircase in addition to an internal one shows acquaintance with Classic examples. For precedent there are the Mansion House, the portico staircase of the National Gallery, and University College, besides the City Hall at Dublin, and innumerable country mansions of the eighteenth century. It is strange that a design possessing such simplicity and charm should have passed unnoticed. The next design, No. 100, by Mr. H. S. Goodhart-Rendel, is also unpremiered. The plan is similar to that evolved by Messrs. Adshead and Ramsey, but is not quite so satisfactory from the circulation point of view. The elevational treatment is a object-lesson showing the possibilities of the Neo-Grec style for public work when it is developed on the lines exemplified by Professor Cockerell. Mr. Goodhart-Rendel's design is out of character with the surroundings for which it was designed, but as a hall of science in a university town it would be not only appropriate but epoch-making.

The first-premiered design, by Messrs. Briggs, Wolstenholme and Tharnely, is strongly presented. The plan is of the twin area variety, and reasonable in its equipment and circulation. The architectural treatment of the façades reminds one of the Custom House at Dublin, although the introduction of the strong Doric order between blocks of quasi-domestic character is not commendable. This design suffers from the application of a coarse hyperthyrium or cheneau, which ornaments will not take material form.

The second-premiered design, by Messrs. Granger and Leathart, is a practical plan with the doubtful expedient of a staircase placed against the front door, adding to the complexity of the entrance. The ornament and the architectural treatment of the façade are rather out of sympathy with the object of the building, and the motif suggests the sketches of Rafterham or Byam Shaw.

Next in order of merit is the third-premiered design, by Messrs. Poynter and Wenyon, who adopted twin areas for the plan arrangement. The elevation, however, is not quite satisfactory: the colonnade needs a base, and the same fault which is inherent in the Banqueting House of England front has been repeated. The remarks concerning character apply with equal force to the three premiated designs. No. 28, by Messrs. Lanchester and Rickards, is a novel plan without areas, the basement lighting suffering in consequence. The design, however, is the work of an artist who understands the site and the surroundings, and who presumably adopted a Dutch character by reason of the proximity of the district to the Port of London. When the merits of the columnar school are duly weighed, and the value of quiet astylar work is more fully understood, such work as the design in question will receive the consideration it deserves; but at present it is overshadowed and challenged by work of more pretentious and less charming manner. It is regrettable that fashion is relentless in its choice of style, and that considerations of pretentious display are more readily

claimed than work which is modelled on the lines of sympathy far removed from the tastes of the moment.

No. 130 is a design by Messrs. Mewès and Davis, an English interpretation of a Quatorze type. The plan is of the twin area variety on French lines, the circulation is excellent, and numerous features have been introduced which would result in splendid internal effects. This set of drawings loses its telling effect by reason of bad placing in the exhibition. No. 108, by Messrs. Sullivan and Jemmett, is a splendid plan on French lines, and the staircase in the right place. The elevation shows great knowledge of academic rules, and the ornament is efficient and well selected. The character of this design is more suited to an art gallery or academy of science than to the needs of a small town hall. No. 109, by Messrs. Ivor Jones and Percy Thomas, shows a plan designed without areas, with the staircase on the front wall. The elevational treatment is refined and scholarly. Mr. T. Edwin Cooper submits a straightforward plan equal in merit to any of his compeers. The elevations, however, are complex in their disposition, and the detail is too experimental to be convincing. Mr. Frank Atkinson's plan is of the same type as the latter. In this case St. George's Hall seems to have suggested itself as a motif. In No. 106, by Messrs. Darbyshire and Collard, the plan is well arranged on axial lines, but the circulation could be improved. The front elevation is too complex, but the side elevations are satisfactory with the exception of the two pedimented windows, which disturb the rhythm.

No. 152, by Mr. Wilson, is an excellent plan of the twin area type. The elevations are over-complex, and reveal too much interest, especially above the colonnade.

No. 61, by Mr. Frazer Tomlins, shows a remarkably good plan of the twin area type, with good circulation and well considered adjustment of the various departments. There is an earnestness of purpose expressed in the architectural treatment of the main façade which is very inspiring, but several faults are apparent in the composition. Apparently the author has a predilection for Vanbrugh's work, and believes in a telling skyline, but the method he follows to attain that end is open to challenge. There is too much cleverness in the detail. No. 135, by Mr. H. S. East, shows a novel departure from the other designs in the placing of the main entrance at the side, and this arrangement naturally creates a difficulty in expressing the interior or the front. No. 138 is a provincial design in the manner of Mr. Coutyens. It forcibly reveals a large country house in the treatment of materials, but is unsuited in character to a town hall, the rhythm of the parts being too disconnected.

No. 130, by Mr. Leslie Wilkinson, shows several doubtful expedients in the plan, but the elevations, conceived in a charming Colonial manner, are very telling by reason of the good proportion of parts and the scholarly knowledge shown. Mr. Wilkinson is one of the few competitors who grasped the scale of the cottage property surrounding the site and attempted a correct interpretation of the character the problem demanded. No. 102, by Mr. J. M. Fletcher, is a twin-area plan of similar nature to the leading designs. The introduction of a double staircase with open access between is an innovation with great possibilities. Mr. Fletcher's elevations are well composed and entirely free from pretentiousness. No. 66, by Professor Beresford Pite, is a chaste scheme based on the best tradition of the French

school. It is of unique and distinctive composition, but is too cold in expression to evoke feelings of sympathy, however much one may admire the ingenuity displayed. Architecture demands a human touch, and the icy tone of this scheme, notwithstanding its scholarly attributes, leaves one chilly. No. 78 is an excellent plan by Messrs. Wills and Kaula. The elevations are of the pleasant, cheery Wren type, which so few appreciate today. The end portions are not so fortunate in this scheme as the central façade, but this is a very meritorious design. No. 25, by Messrs. Drysdale and Aylwin, is a little disappointing, especially in the elevations. The authors endeavoured to impart an impressive character to the main entrance by introducing youthful figures, the stern truth being that sculpture must always be subordinate to architecture and that the repetition of small babylike figures detracts from masculine expression.

There is one other set of drawings—No. 114, by Mr. Philip A. Robson—which makes a distinct appeal by reason of the excellent plan and the restrained character of the architecture. On studying this plan one recalls such of the excellent work of the tail end of the Classic tradition, which was called into being about 1884. The planning is spacious and satisfying, and the architectural interest is honestly expressed. This design should undoubtedly have been mentioned.

Want of space prevents an analysis of every design. To conclude, there is a noticeable tendency to avoid coarse ornamentation, and the number of cartouches, broken pediments, and gigantic keystones which hitherto formed the stock-in-trade of the competition architect's equipment have all but disappeared. There is, however, in its place a deplorable tendency creeping in to inlay buildings in imitation of those delightful boxes and tea-caddies which made the fame of Tunbridge Wells. This is a reprehensible outbreak which threatens, unless it is immediately checked, to develop to alarming proportions. There is no disputing about good taste, but such tatooings and scalings will have to go before the next phase is reached. Architecture is akin to the progress of society; there is no finality to the development of either; both recede in one direction as fast as they advance in another. Competitions reflect our weaknesses, and at the same time enable us to rectify the more glaring of the faults. For this advantage we should be grateful, but the influence of the successful competitor in such a parlous time as the present age of experiment is too dangerous to be useful. Free criticism, however, will do much to check the evil.

BROMBOROUGH PORT ESTATE COTTAGE COMPETITION.

In holding this competition, in which the awards of the assessor, Mr. Geoffrey Lucas, F.R.I.B.A., were announced in our issue of June 9, the Bromborough Port Estate Company desired to obtain types rather than designs, with a view to the provision of housing accommodation that may become necessary in consequence of industrial developments along the Mersey.

To the invitation for competitive designs there was a very large response, and from the 250 designs sent in it was possible to select excellent examples of typical cottage design.

In the group of five cottages, Messrs. Halliday and Paterson and C. G. Agate showed the least stereotyped arrangement. Their staircases are projected in the form of octagonal bays, roofed with gables; and some of their central cottages are planned with through-lit living-rooms—a commend-

able arrangement if the necessary width of frontage can be economically provided. In the five-block group, their houses had an average of 28 ft., centre to centre, as compared with the 17 ft. provided by Messrs. Cleland and Hayward, whose plan, as well as their design for the group of seven cottages, is of ordinary type. In all these designs there was a visible effort at inexpensive picturesqueness, but the elevations by Messrs. Crickmer and Higginett approached more nearly than any others in the competition the simple type of cottage with unbroken eaves which admits of considerable charm of treatment.

In the groups that were to contain both shops and cottages, Messrs. Morter and Dobie's group of three were ingenious and satisfactory on plan, though the elevation was somewhat hard in treatment. Mr. E. G. Theakston's seven cottages and one shop were of normal type, but the scheme was apparently worked out with great economy. Mr. McKewan's corner-site treatment created but overcame very skillfully a difficult problem, the large steep roof, however, being rather superfluous.

About one-half of the large number of designs sent in were in no way remarkable, except, perhaps, for their general mediocrity.

LEGAL.

Timber Merchants' Claim against Builders.

Marshall, Knott, and Barker, Ltd., v. F. Jarvis and Son, Ltd.

June 29. Official Referee's Court. Before Mr. Follock

In this case, which has occupied Mr. Edward Pollock for several days, the plaintiffs, a firm of timber merchants, of Grimsby, claimed from the defendants, Messrs. Jarvis and Sons, Ltd., builders and contractors, of Hackney Road, the sum of £546, balance of the price of timber supplied in connection with the building of St. Michael's Church, Grimsby.

Mr. G. A. Scott, in opening the plaintiffs' case, said that the defendants had paid into Court £350, with a denial of liability, and had also counterclaimed for damages. The claim was for Dantzic oak supplied, with the cost of sawing and moulding. The account began in March, 1914, and continued until the following August, and amounted to a total of £888 11s. 5d., and credit had been given for £341 odd paid. The issues to be tried were merely as to the amount of oak supplied and the charges made for sawing and moulding, the defence being that the plaintiffs had overcharged under both heads. The plaintiffs said that they had supplied 3,462 cubic feet of timber, and the defendants said that the quantity should have been only 1,896 cubic feet if the wood had been properly and carefully cut. The plaintiffs also charged for 21,940 ft. of sawing, and the defendants said it should have been only 12,000 ft. The plaintiffs are a very large firm of timber merchants, having extensive business premises at Grimsby, Liverpool, Hull, and London, and the defendants are builders and contractors in a large way of business who are specialists in church building, and the counterclaim set up by them was practically, said counsel, under three heads. In the first place, they claimed to deduct a small amount of £6 5s. for discount upon cash payments made, but plaintiffs said that the payments were not made in time to entitle them to claim the discount. The second head was £45 10s. for delay in delivery, and the plaintiffs admitted delay, but said it was caused by defendants not giving proper instructions to enable the contract to be carried out. There was

also an allegation that some of the timber supplied was knotty, but plaintiffs said that that was the risk of the defendants.

Evidence having been called in support of plaintiffs' case,

Mr. Cartwright-Sharp, for the defence, said that independent expert witnesses would show that there had been errors in the plaintiffs' calculations, and that nothing like the amount of timber claimed for had been cut up. Defendants also said that of the quantity claimed for 200 pieces were not delivered, and they claimed damages in consequence. It was, said counsel, possible to measure from the delivery tickets the quantity of finished product supplied, and that was only 1,200 ft. The plaintiffs' contention was that to produce that 1,200 ft. 3,400 ft. of logs were required, and he would, he said, be able to prove that 1,800 cubic ft. of logs only would be required, and, making allowances for special difficulties, 2,000 ft. at most.

The Official Referee, after hearing a number of witnesses for the defence, found on an adjustment of figures that plaintiff was entitled to payment out of £115 of the £350 paid into Court. He accordingly gave judgment for the defendants on that basis, and ordered them to pay plaintiffs' costs up to the date of payment into Court, the plaintiffs to pay the costs subsequent to that date.

Judgment was entered accordingly.

Ancient Lights Dispute.

Charlewood and others v. Boots Cash Chemists (Lancashire), Ltd.

July 1. Chancery Division. Before Mr. Justice Sargent.

This was an action by Mrs. E. Charlewood, Mrs. M. Milnes, and Miss J. Knowles, of Neville Street, Southport, proprietors of "Mrs. Moore's potted meat business," for an injunction to restrain Boots Cash Chemists (Lancashire), Ltd., from interfering with plaintiffs' ancient lights, and for damages for alleged trespass.

Mr. Grant, K.C., for the plaintiffs, said the properties were situated in Southport, a residential place, without any manufactory. The main street, Lord Street, was an extremely fine street. Southport had the advantage of having been laid out on a system which was really an anticipation of the town planning system, and Lord Street was the only street he knew in this country which at all approached the Continental boulevard. Neville Street ran from Lord Street to the seashore. Plaintiffs' premises were in Neville Street, a few doors from Lord Street and therefore in a good position, and carried on there their business in the old-fashioned style. They occupied the premises under a lease dated March, 1854, for 64½ years, the Scarisbrick trustees being the freeholders. The defendants had bought premises running from Lord Street to Stanley Street, and later other property, from there to Neville Street, so that they surrounded plaintiffs' property. They began building operations in May, 1914, with the result that the plaintiffs were put in a well so far as light was concerned, and counsel said the defendants had ignored the plaintiffs' request for particulars of the defendants' intentions.

His Lordship said he was not inclined to grant a mandatory injunction for the short period the lease had to run, but he was willing to grant one on the terms of the defendants' undertaking previously given not to raise their building higher than it was at present. All that remained in the action was the amount of damages.

Counsel having consulted, Mr. Romer, K.C., for defendants, offered £200 as

damages, and said he did so because of the position in which he had been placed owing to a misunderstanding as to plans.

Mr. Grant accepted the offer, which included the payment of costs in addition to damages and an admission of ancient lights.

His Lordship made an order on those terms.

NEW BOOKS.

A Practical Manual of Reinforced-Concrete Construction.

Although manuals on reinforced-concrete construction have become plentiful exceedingly, it cannot be said that the latest addition to them, Mr. A. Alban H. Scott's treatise, is in any way superfluous. On the contrary, one may confidently predict for it a warmer welcome than has been accorded to many a more pretentious book, because Mr. Scott deals with the subject in a thoroughly practical manner. Most manuals on reinforced concrete err on the side of abstruseness, magnifying complexity, multiplying formulæ, over-elaborating theory, and incidentally impressing the neophyte with an exaggerated notion of a scientific "frightfulness" which none but the brave dare face.

No doubt those uncompromisingly mathematical works serve an excellent purpose. A thorough grounding in theory is essential to those who aspire to become experts in reinforced-concrete construction. But there are others—for whom a plain understanding of practice—of the common-sense why and wherefore of every operation—is of greater moment, and whose knowledge need not extend to pure theory: towards which, however, Mr. Scott's book enables an easy approach on the inductive method. As Mr. Scott says, "Although a contracting firm may have had very wide experience in reinforced-concrete construction, it must be remembered that the members of its staff on the works are actually executing the work, and it is important that they, as well as the heads of the firm, should have a thorough knowledge of this class of work." For these Mr. Scott's book presents the right kind of information in the right way. It tells with great clearness and simplicity what is to be done, why it is to be done, and how to do it.

The author has found great improvements in work executed where the foreman explains to the ganger, and he in turn explains to his men in their own particular language the different functions the materials fulfil. Seeing that, for this purpose, a simple explanation will be far more suitable than a long scientific lecture, Mr. Scott shows, in two photographic examples, how a solid piece of round rubber can be used for illustrating in a simple way to the workman all the usual stresses to which the materials are subjected, while simple shear stress can be explained by placing together thin strips of rubber, showing in an elementary manner the tendency to slip horizontally or vertically.

Dealing, in successive chapters, with materials, testing, centering, the preparation of steelwork, concrete, machinery, and plant, and, in fact, with all the practical details of reinforced-concrete construction, the author compresses into remarkably small compass a very considerable body of information that will be found serviceable by everybody engaged in the work, and the illustrations are of the same practical character as the text. Altogether this is an eminently serviceable little manual, small

enough to be carried in a coat pocket, but comprehensive enough to meet all reasonable requirements.

"Reinforced Concrete in Practice." A Textbook for those engaged upon Structural Works. By A. Alban H. Scott, V.P.S.A., M.C.I., etc. With one hundred and thirty illustrations, two folding Plates, and numerous Tables. London: Scott, Greenwood & Son, 8, Broadway, Ludgate Hill, E.C. Pages viii + 178, 4½ in. by 7¼ in., price 4s. net.

The Smithsonian Institution Annual Report.

If the Smithsonian Institution did nothing else in justification of its existence, the publication of its annual report would surely suffice. Doubtless it does very much more; but, in any case, the production each year of a portly volume of some eight hundred pages, in which the world's progress in various branches of science is indicated in a number of illustrated articles by writers of various nationalities, is in itself no mean achievement.

Nearly always the volume contains matter that is of more or less direct architectural or building interest, and the present issue is in this respect by no means disappointing. In the report by the secretary, Mr. Charles D. Walcott, there are references to Cambrian geology, to the geological survey in Panama, to the American School of Archeology in China, and to the George Washington Memorial Building to be erected in Columbia, which is to be "a gathering place and headquarters for patriotic, scientific, medical, and other organisations interested in promoting the welfare of the American people and the development of the country in science, literature, and art."

Then, in the "General Appendix" which, with its six-and-thirty separate articles, makes up the bulk of the book, there are several headings that come within our scope—such as "Notes on the Geological History of the Walnuts and Hickories," "The Geologic History of China," "The Earliest Forms of Human Habitation," "Problems in Smoke, Fume, and Dust Abatement," "The Application of the Physiology of Colour Vision in Modern Art," and "Fundamentals of Housing Reform." The book is an excellent means of promoting the objects with which the Smithsonian Institute was founded.

Annual Report of the Board of Regents of the Smithsonian Institution, showing the Operations, Expenditures, and Condition of the Institution for the year ending June 30, 1913. Washington: Government Printing Office, 1914.

OBITUARY.

Mr. Thomas Nevett.

Mr. Thomas Nevett, builder, who has died at Buntingford at the age of sixty-eight, was concerned in the restoration of a large number of churches, and the nave of Layston Parish Church was restored entirely at his expense. He took an actively generous interest in the charities and public affairs of Buntingford.

Mr. Mark Howarth.

Mr. Mark Howarth, builder and contractor, of Sunderland, who has died at the age of sixty-six, had built a large number of the properties in Thornhill Park, in Woodside, and in other residential parts of the town, including Langham Tower. He also built the Theatre Royal, Seaham Harbour. Much of his work lay in the building of premises for manufacturing purposes and in alterations and additions to existing business properties. His work was noted for its excellence both in regard to workmanship and material.

SOCIETIES AND INSTITUTIONS.

Association of Old Students of the Royal College of Art, London.

The above association, being one of the most fully and widely representative bodies of artists in the kingdom, comprising as does, painters, etchers, sculptors, engravers, craftsmen, architects, and artists, many of whom are also members of the chief art societies in the country—namely, the Royal Academy, the Royal Society of Painter-Etchers, the Royal Society of British Artists, the Royal Society of British Sculptors, the International Society of Sculptors, Gravers, and Engravers, the Arts and Crafts Exhibition Society, the Royal Society of Arts, and the Workers' Guild, feeling the necessity steps should be taken to initiate some form of action which would in a purposeful way tend to promote a further elevation of artistic taste, decided at the annual general meeting to send a deputation to the President of the Board of Trade to express their views.

The deputation, consisting of the following members of the Old Students of the Royal College of Art: Alexander Fisher (President), John Eyre (Vice-President), Messrs. J. J. Brownwood, D. McGill, Walter Wallis, F. P. Brown, and H. Brown (hon. sec.) duly waited upon him and presented the following recommendations:

To arouse and quicken throughout all classes of the community a more intelligent appreciation of the value and necessity of art and art productions of every kind by an extended system of art education in all schools and colleges; and holding regularly national exhibitions of art productions. (2) To co-ordinate the

whole system of art education. (3) To bring all sections of art producers together, giving them unity of interest. (4) To call together a deliberative assembly of representative artists, art-masters, manufacturers, distributors, educationists, and others, as a first means of considering the above proposals. (5) To hold a public conference to discuss these measures.

In support of these propositions they asked the Board of Education to deal fundamentally with the art education of the country, beginning by making the development of the creative artistic faculty and drawing part of the curriculum of every elementary school and upwards to the higher grade schools and universities.

The movement should be a national one, as no individual art society would have the power to combine all art interests, complete unity of purpose and extended effort being the essential desideratum towards fostering and encouraging a more widespread appreciation of the benefits and advantages accruing from the development of a deeper artistic sense, as well as to hold an increasingly high and worthy position amongst civilised nations to which the country is entitled.

In reply, the President said he welcomed the suggestions brought forward by the Old Students of the Royal College of Art, and pointed out that one difficulty which had to be overcome before satisfactory co-operation between manufacturers and artists was established was the feeling which existed with some manufacturers that artists did not understand the economic conditions which attached to the workshops, but he hoped in the near future for a closer connection between art schools and the manufacturers.

He stated that the Board of Trade and

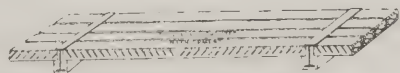
the Board of Education were anxious to promote exhibitions which would arouse interest in new industries and which would restore the application of Art to existing industries.

Equipping a Teachers' Training Centre.

The Plans and Buildings Sub-Committee of the Aberdeen Provincial Committee for the Training of Teachers have had under consideration a report by the architect on the first instalment of fittings and furnishings for the new training centre buildings. The architect stated that in view of the high prices of material caused by the war, he considered it advisable to defer the final furnishing of as many of the rooms as possible, so far as this could be done without impairing the efficiency of the work of the Training Centre. Accordingly he proposed that the furnishing of the following rooms should meanwhile be deferred: Educational hand-work rooms, men students' common room, history and geography room, library, and men and women students' study and reading rooms. The total cost of the various furnishings for the rooms proposed to be dealt with he estimated at £3,000, the probable cost of the various sections of the fittings, etc., being put as follows: Committee rooms and room for Scotch Education Department, £700; offices, £220; laboratories for nature study, chemistry, physics, etc., £960; rooms for instruction in psychology, £200; classrooms, etc., £700; window blinds, £70; cork carpet, rugs, and other small furnishings, £150. The sub-committee approved of the proposals, and further resolved that the architect be asked to prepare an estimate of the cost of the suggested installation of a cinematograph.

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COMPETITIONS.

R.I.B.A. Problems in Design.

The following Problems in Design have been set for Subjects XXII., XXIII., and XXIV. by the Board of Architectural Education: Subject XXII. (August 31), entrance façade to a tube railway station; Subject XXIII. (October 31), a school chapel; Subject XXIV. (December 31), treatment of forecourt to a house and design for a group of residential flats. The dates within brackets are the sending-in dates for designs by students in the United Kingdom.

Proposed Business Premises at Plymouth.

The Plymouth Co-operative and Industrial Society, Ltd., invite designs for new business premises to be erected on an island site, bounded by Frankfort Street, Courtenay Street, and Raleigh Street, as shown on the annexed plan. Mr. Paul Waterhouse, F.R.I.B.A., has been appointed assessor. The author of the winning design will be appointed as architect to the work, and premiums of £75, £50, and £25 will be awarded to the competitors placed respectively second, third, and fourth.

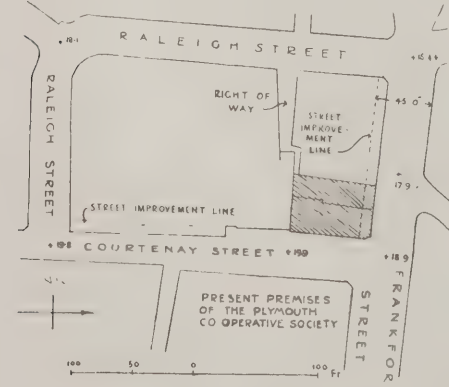
Requirements.—Accommodation is to be provided for the following departments:—

	Basement. sup. ft.	Ground Floor. sup. ft.	First Floor. sup. ft.	Second Floor. sup. ft.
				(workrooms)
Drapery ...	4,300	6,000	5,760	1,000
Furnishing	3,500	5,000	4,000	1,000
Boots	500	1,500	—	—
Ironmongery	2,500	3,000	2,700	—
Tailoring ..	1,000	2,500	—	2,500
Outfitting ..	1,000	2,000	—	—
Ready made	1,000	2,000	—	—
Hats	500	800	—	—
China	500	800	—	—

A restaurant measuring at least 7,540 sup. feet, with kitchen and pantry attached, is to be arranged on the top floor, and should have a small flat-roof terrace in "gardens" adjoining. A telephone exchange must be provided. Mess-rooms for male and female employees might be placed so as to be served by the restaurant kitchens. No caretaker's quarters are required. In each department there shall be, if possible, a manager's room, with a small typist's room attached.

Competitors are not debarred from introducing into their plans any other accommodation which they may consider desirable or necessary. In any case it is intended that the buildings should be so designed that, if necessary, a complete third and fourth floor can subsequently be added, probably in a mansard roof.

The properties hatched in on the plan are not available, nor is there any prospect of their being acquired by the society. Competitors are, however, advised so to scheme both plans and elevations that if



PROPOSED BUSINESS PREMISES AT
PLYMOUTH: SITE PLAN.

these properties were at any time offered to the society their sites could be incorporated into the building.

Drawings are to be accompanied by a report explaining constructions, etc., and an estimate of the cost.

Drawings Required.—A plan of each floor. At least two sections, three elevations, and a $\frac{1}{4}$ -inch scale detail elevation of the frontage not illustrated at $\frac{1}{16}$ -inch scale. All drawings, except the detail elevations, to be made to the scale of 16 ft. to 1 inch. No perspectives. Designs must be received by the General Secretary, Plymouth Mutual Co-operative and Industrial Society, Ltd., 15-18, Frankfort Street, Plymouth, not later than twelve o'clock noon, on September 14, 1915, to whom any questions relative to the competition should be addressed by July 15.

NATIONAL ROAD EXHIBITION.

At the National Road Exhibition, which was held at the Royal Horticultural Hall, Westminster, from June 25 to July 1, there were 100 stands, those numbered from 62 onward being in the Machinery Section, which was housed in a building in Greycoat Street, immediately at the rear of the Horticultural Hall. During the exhibition the following conferences were held: June 28, on "The use of tar, pitch, and bitumen in the construction and maintenance of roads, with special reference to the subject of corrugations," papers by Mr. Percy J. Sheldon, M.I.C.E., County Surveyor, and Mr. Alfred J. Lyddon, A.M.I.C.E., Deputy County Surveyor, of Essex, and by Mr. G. H. Jack, County Surveyor of Herefordshire. June 29, on "Heavy Traffic," papers by Mr. Harcourt E. Clare, Clerk of the Lancashire County Council, and Mr. Ernest J. Elford, M.Inst.C.E., M.I.Mech.E., Borough Engineer and Surveyor of Southend-on-Sea. June 30, on "The Classification of Roads," paper by Mr. G. Montagu Harris, M.A., Barrister-at-Law, Secretary to the County Councils Association. July 1, on "The Reconstruction of Roads in Belgium, with general reference to the injury done to roads by war operations and military traffic," paper by M. Henri Vandervin, of Belgium.

At Stand No. 1, the British Reinforced Concrete Engineering Co., Ltd., 82, Victoria Street, Westminster, and 1, Dickinson Street, Manchester, exhibited their "B.R.C. Roadbed Fabric," of which a description appeared in a recent issue of this Journal. This fabric is designed to be easily and rapidly laid in concrete without special appliances or special supervision, and it so increases the strength of the concrete that a comparatively small thickness is required even for the heaviest traffic.

At Stand No. 3, the Gas Light and Coke Co., Finsbury Pavement, E.C., showed samples of pitch, dehydrated tar, thinning oils, creosote oils, pitchphalte (a substitute for bitumen), tar-coated granite, and disinfectants.

At Stand No. 5, The Trussed Concrete Steel Co., Ltd., Caxton House, Westminster, showed samples of Hy-Rib steel sheeting, the material curved to a complete circle as used in pipe-culvert work, conduits, etc., and as used in arched culverts, the closeness of the mesh and the stiffening afforded by the ribs in the material doing away with any necessity for timber centering. Samples were also shown of pressed steel built-up sections for use in conjunction with Hy-Rib for all types of buildings, and of Atlas reinforcement for concrete roadbeds, a material for which it is claimed that it combines the uniformity of cross-section obtainable with bars with ease of

handling obtainable with a mesh reinforcement; a small tank waterproofed with Trus-Con waterproofing paste, and photographs of buildings erected with Hy-Rib steel sheeting, and of engineering work carried out on the Kahn system of reinforced concrete.

Tarmac, Ltd., Ettingshall, Wolverhampton, occupied Stands 8, 9, and 10, with samples of their well-known materials for road-construction.

At Stand No. 13, The Ironite Co., Ltd., 1, Victoria Street, Westminster, exhibited the Ironite patent waterproofing process for cement, bricks, tiles, concrete, wood, etc., and the Ironite patent flooring process.

At Stand No. 14, Messrs. George H. West and Co., Caxton House, Westminster, exhibited Lock-woven mesh for concrete reinforcement, and "Peerless" woven wire fencing.

At Stand No. 35, Clarmac Roads, Ltd., 3, Central Buildings, Westminster, showed samples of Clarmac, made from old coke blast furnace slag; also their asphaltic carpeting, and other specialities.

At Stand No. 39 the Limmer Asphalt Paving Co., Ltd., Caxton House, Westminster, showed a collection of samples of their specialities—mineral rock asphalt, lithofalt paving blocks, lithomac asphalt, macadam, compressed asphalt paving, etc.

In the Machinery Section the Ransome & VerMehrs Machinery Co., Ltd., had for their chief exhibit a concrete mixer for small work. They showed also samples of Ransome steel piling.

At Stand No. 69, Messrs. Rogers, Welch and Co., Ltd., 26, Page Street, Westminster, showed samples of "Pruft" waterproofer, which is identical with "Ceresit," but is British throughout.

LIVERPOOL UNIVERSITY CHAIR OF CIVIC DESIGN.

The Council of Liverpool University, at their meeting on June 30, appointed Mr. Leslie Patrick Abercrombie, M.A., A.R.I.B.A., to the Chair of Civic Design, rendered vacant by the resignation of Professor Adshead, on his appointment to the London Chair. Mr. Abercrombie has been Lecturer and Research Fellow in Civic Design in the University since 1900, and is at present in charge of the department. He has contributed to this Journal and to the "Architectural Review," and is co-editor of the "Town Planning Review" and his numerous contributions include studies of Vienna, Paris, Brussels, and Berlin; an examination of the Town Planning schemes of Greater London, and a series of reports on the working of the Town Planning Act. During the past few years Mr. Abercrombie has been awarded premiums in connection with several housing and town planning competitions, and has carried out important schemes. In partnership with Mr. L. B. Budden, he was recently awarded the second premium of £300 in a competition promoted by the Corporation of Bradford for the development of the central area of that town.

Model of a Building in Reinforced Concrete.

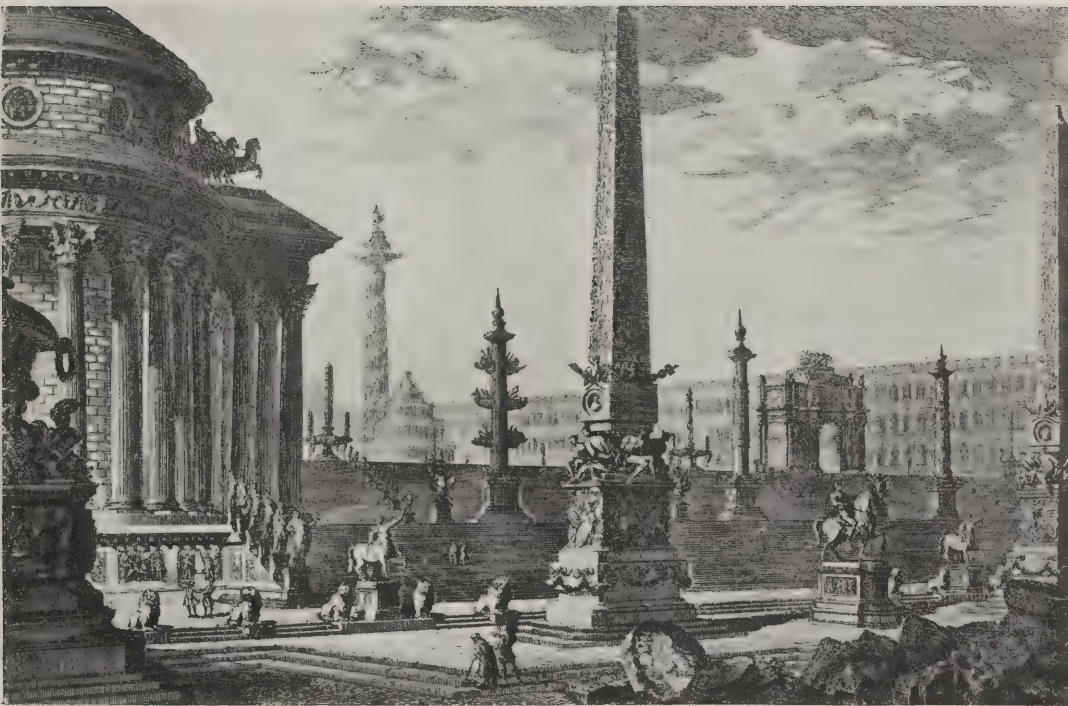
The Waverley Book Company, Ltd., 7, 8, 9, Old Bailey, E.C., offer, free of charge, to every purchaser of "Reinforced Concrete," which is a complete treatise, one volume, copiously illustrated, on the practice and theory of reinforced concrete, a sectional model of a building in reinforced concrete. The advertisement in which this remarkable offer is made appears on page ix. of the present issue.

THE ARCHITECTS' & BUILDERS' JOURNAL.

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(From Piranesi.)

THE ARCHITECTS' & BUILDERS' JOURNAL.

JULY 14, 1915.

TOTHILL STREET, WESTMINSTER.

VOLUME 42. No. 1071.

EDITORIAL.

A "COUNT-OUT" was the indeterminate result of the special general meeting of the R.I.B.A. at which it was proposed to make an alteration in the regulations for competitions. In these regulations the second paragraph reads: "Members of the Royal Institute of British Architects and Allied Societies do not compete excepting under conditions based on these regulations," and there is a footnote stating that "the regulations are not intended to apply to small limited private competitions." The proposal was that the second paragraph should read: "Members of the Royal Institute of British Architects and of its Allied Societies are only permitted to take part in competitions in accordance with these regulations, which are intended to apply to all competitions other than private competitions instituted by private individuals or firms," and that the footnote quoted above should be omitted.

It will be observed that the proposal would effect two changes that seem rather worth while, although in the drafting their significance may not be at first sight strikingly obvious. In the first place, "members do not" is altered in force to "members must not," although this is not the actual language adopted. That full advantage is taken of the laxity of the wording of the existing prohibition, which is of the nature of a mere "pious opinion," is notorious; but the wording suggested in substitution is still rather timorous and tentative. It does not say outright "Thou shalt not," perhaps because of the difficulty of enforcing obedience; and until this disability is removed mere verbal amendment on the point would seem to be rather futile, even when one assumes the super-sensitiveness of the profession to the effects of moral suasion. Nevertheless, there would certainly accrue at least some slight advantage if the prohibition were made, as it might easily be, more definite and emphatic than it was in the proposed alteration. Members disregarding it could then be accused of sinning against the light, whereas they can now plead that they slip into sin because of the semi-obscurity.

With regard to the second point in the proposal—that relating to the competitions to which the regulations are intended to apply—the intention is again more obvious than the effect. "Small limited private competitions" is, it would appear, sometimes stretched to include work in which public funds are directly or indirectly employed; and, the word "private" being of ambiguous meaning, a "private" competition might be instituted by a public authority, casuists contending that "private" was only opposed to "public" in the sense of restricting a competition to a limited num-

ber of architects. But "private competitions instituted by private individuals or firms," though it smack of tautology, seems to leave no room for misinterpretation, wilful or inadvertent, among those who, when it serves their own ends, are swift to attach more importance to the letter than to the spirit of regulations, especially when the breach carries no very drastic penalty. That the discussion should have had so lame and impotent a conclusion is less surprising than regrettable. The depression due to the present dearth of competitions is more easy to understand than to condone.

It appears that the man who attempted to assassinate Mr. J. Pierpont Morgan, and who last week evaded justice—or executed it on himself—by committing suicide, was also the author of the bomb explosion in the United States Capitol. Fortunately the damage done to the building was not very serious, and no doubt the Americans, in congratulating themselves that matters are no worse, have realised that they could better spare a better building. Not that it is by any means a bad building; but it has seen certain vicissitudes that might have been expected to ruin its character, yet have signally failed of that lamentable effect.

Several architects have left their mark upon it. As long ago as 1792, a competition was held with the object of securing a design for the Capitol. Sixteen designs were submitted, but not one of them was considered to be worthy of the occasion. Then Stephen Hallet, a New York architect of French extraction, presented a design that met with approval. This, however, did not settle the matter; it was rather the signal for trouble to begin. Dr. William Thornton, a Philadelphia physician who amused himself with architecture, prepared a design that greatly impressed George Washington, who preferred it to Hallet's. Thornton was accused by Hallet of stealing some of the latter's sketches. The charge was vehemently denied. After this incident, and the adoption of Thornton's design having been determined upon, it is a little strange that Hallet should have been appointed to superintend the work. Finding Thornton's plan impracticable, Hallet was authorised to revise it. Thereupon Thornton got himself appointed as one of the Commissioners, and procured the dismissal of Hallet.

George Hadfield, an Englishman, who succeeded Hallet, was also forced to resign. James Hoban, an Irishman, who had been clerk of works under Hallet, had better luck. In 1800 he had completed the north wing of the Hallet-Thornton design, and this is now part of the centre block. Under Hoban the work was

not done very satisfactorily, and in 1803 Benjamin Latrobe, a pupil of Cockerell, was appointed to build the south wing, and also to rebuild the defective work in the north wing. Both wings were completed in 1811; but in 1814 the Capitol was destroyed by the British. Latrobe restored it, and on his retirement in 1817 the work was taken up by Charles Bulfinch, of Boston, who was actually the first American-born architect employed on the Capitol, which, as completed in 1827, consisted of a centre and two wings with three bow domes. Important extensions were made between 1850 and 1865 by that rather elegant Classicist, Thomas Ustick Walter, of Philadelphia, who added two wings, and who made the dome as it is seen to-day, a lofty structure, composed chiefly of cast and wrought iron, reaching a height of 290 ft. T. U. Walter became the first president of the American Institute of Architects. One of his assistants was Richard Morris Hunt, who (in 1893) was the first American to receive the Royal Gold Medal of the R.I.B.A.

The Capitol comprises three main blocks—the Senate towards the north, and the House of Representatives towards the south, being the wings added before 1865, while the older central block contains the Rotunda, the Supreme Court room (the original Senate Chamber), and the Statuary Hall (the old House of Representatives). The present Hall of Representatives is 140 ft. long, 93 ft. wide, and only 30 ft. high. Modern extensions to the Capitol—the Senate Office and House Office buildings—are, of course, the work of Messrs. Carrère and Hastings, and have been frequently illustrated. One can never see the name of his firm without feeling a glow of gratitude in the recognition of what it stands for, not only in American architecture, but also in architectural education; these two partners having been, with Masqueray and a few other noble spirits, strenuous pioneers in the introduction of the Beaux-Arts system into the United States.

Sculpture is notoriously a very simple art. "You simply cut away what you don't want." And it seems that the amount cut away may very greatly exceed that which is left. For instance, one reads that an Aberdeen mason has in his yard "four monster eagles of the Mexican type," and that whereas the blocks on their arrival from the quarry weighed about seven tons each, now, when finished, they weigh only about two tons each. It is stated that the design, which is "a masterpiece," is by "Sir Austin Webb, architect," part of whose name, at all events, is not yet as familiar as in due time, repetitions of the error must inevitably render it. These eagles, it is added, are to be placed on pillars at the entrance gateways to the principal avenue to Duncecht House. Sir Aston Webb would seem to have a formidable rival in Sir Austin, for whose name, however, you shall search in vain the R.I.B.A. Kalendar.

One of the dangers of relaxing by-laws is a tendency to carry the process too far. This tendency became apparent in the course of a recent discussion by a rural district council in the eastern counties, in which one or two speakers urged the economic advantages of four-and-a-half-inch party walls. Fortunately the majority of the council were in favour of nine-inch walls, in spite of a protest that insistence upon the greater thickness would ruin all the local builders; the wonder being that at this date anybody whatever should have the effrontery to advocate four-and-a-half-inch walls, which would be comparatively inoffensive if they had no greater fault than that expressed by one of the councillors—"You can't talk any secret without the next-door neighbour hearing." What is infinitely

worse, such thin partitions are unhygienic and indecent, and ought on all grounds and in every instance to be sternly prohibited.

Queen Alexandra was present at the service of commemoration in Southwark Cathedral on Monday week, when the new work which has been done to Bishop Fox's altar-screen was dedicated. This new work comprises restoration of the central portion of the screen to what was probably its original appearance, and the setting-up, in two vacant niches, of statues of King Henry I. and King Edward VII.—of the former because he was on the throne when the first church on this site was built by Bishop Giffard; and of the latter because he was King when the building was set apart as the mother church of Southwark. King Edward, whose statue in the bottom right-hand niche of the screen was unveiled by Queen Alexandra, wears the robes of the Order of the Garter. The sculptor is Mr. E. T. Nicholls.

Bishop Fox set up his fine altar-screen, in what was then the priory church of St. Mary Overy, in 1520. Carved on it there is the inevitable "Pelican in her Piety," and there is, besides, a humorous allusion to the founder's name in the figure of a man chasing a fox. The screen, which almost fills the eastern end of the choir, had been much mutilated by zealots, who were particularly destructive of the statuary in the niches. Moreover, "the Wren school," whoever they may be, have been charged with paring off small canopies and other projections to make a level surface for a woodwork screen of Classical style. That incongruity was removed in 1833, by Mr. Wallace, who, however, made some sorry additions to Fox's screen—rows of angels, and a cornice of strawberry leaf ornament. The screen is about 30 ft. high, and contains three tiers of canopied niches, ten to a tier, and divided down the centre by a perpendicular series of three larger niches, all occupied by statues. "Caen and fire-stone" is an old description of the materials of which the screen was originally built; and in making his additions Mr. Wallace used Painswick stone.

What was done at St. Saviour's in 1838 drew from A. W. Pugin a strong protest in the "Dublin Review." "It may not be amiss," he writes, "to draw public attention to the atrocities that have lately been perpetrated in the venerable church of St. Saviour's, Southwark. But a few years since it was one of the most perfect second-class cruciform churches in England, and an edifice full of the most interesting associations connected with the ancient history of the metropolis. The roof was first stripped off its massive and solemn nave; in this state it was left a considerable time, exposed to all the injuries of wet and weather; at length it was condemned to be pulled down, and in place of one of the finest specimens of ecclesiastical architecture left in London—with massive walls and pillars, deeply moulded arches, a most interesting south porch, and a splendid western doorway—we have as vile a preaching-place as ever disgraced the nineteenth century. . . . Will it be believed that, under the centre tower, in the transepts of this once beautiful church, staircases on stilts have been set up, exactly resembling those by which the company ascend to a booth or race-course." Surely Pugin had good occasion to remember his swashing blow. It was not until 1889 that the miserable structure of which Pugin makes such hearty complaint was swept away in the restoration then entrusted to Sir Arthur Blomfield, who designed the new nave which fitted the church to take its standing in 1905 as the cathedral church of the Diocese of Southwark.

HERE AND THERE.

TO remain silent when a dominating figure is making his final exit from the architectural stage is not quite seemly. Properly there should be an epilogue. But an epilogue now would be fifteen years too late in the case of Philip Webb, for though he passed away only last month it was in 1900 that he retired to his little country house in Sussex, after forty years of practice as an architect. Nevertheless, we cannot let him pass unnoticed. He was a great force in his day—which was the day before yesterday—and though some of us have not the same views as he had on the revival of architecture on a craft basis, we will admit very readily that it was he who broke away from the Goths and started out on a career of English Renaissance Revived which has developed merrily from Queen Anne to Neo-Grec, and thence, by purifying fires, to the fine display of the Stepney Competition. Philip Webb belonged very really to that school of socialists, poets, painters, and designers whose high priests were the elect of the Brotherhood, and, like those who had influenced him so strongly, he displayed throughout a very vigorous personality. He was, however, so averse to publicity—would belong to no Institute of Architects, would have nothing to do with the Academy, and eschewed any publication of his designs or illustrations of his executed work—that he was no more than a name to those beyond his immediate circle; in spite of which, however, the influence of his work extended throughout the whole profession of architecture, as his manner became taken up. It was from Philip Webb that Norman Shaw took his cue, and Shaw himself had an army of followers. His, indeed, was a silent influence, though I believe that when Philip Webb did start talking, the problem was to stop him! But in writing of such matters it is essential to have been in close touch with the man himself, and as Philip Webb had finished with architecture when I was just beginning to give attention to it, it is not for me to tell the story. Mr. George Jack, a co-worker with Philip Webb, has the qualifications, and we are under debt to him for giving, in the July issue of "The Architectural Review," a very breezy sketch of Philip Webb's character.

Says Mr. Jack: "The years that I spent in Raymond Buildings with him were made pleasant indeed by his ever kind and gentle manners. The work was interesting, and the man more so. Often he would gossip with us, or laugh over some joke or other in a most unbusinesslike way—for he always appeared as the friend, never as the master. There was no hurry in his office—no maddening telephone or typewriter; such letters as he wrote could never have been done by the aid of machinery or in haste; they were genuine specimens of human intercourse, and he continued to the last to be a letter-writer of the very best kind. His letters are full of thoughts expressed in clear and simple words, enlivened by a wise man's humour, and not less precious because they are beautifully written. His office was a kind of pleasant backwater in this bustling world. Yet withal he somehow managed to build some sixty houses in his time, and for forty years was never without work. There was only one thing in which Webb was autocratic, that was in having his own way in carrying out his designs. If clients questioned them he used persuasion, and if that failed he recommended them to try another architect. He was equally autocratic in this respect in his office work. There were no 'ghosts' in his office—every separate detail was designed by himself, even to the smallest moulding—he allowed no one else to interfere in these matters. He had many persuasive methods in dealing with his clients, from reasoning to rude jokes, and always got his way in essentials. One subject of argument was his partiality for large kitchens and offices. If the client, as sometimes happened, suggested cutting them down

he would use his best arguments, and offer to cut down the drawing-room instead. . . . He left London in 1900 to live at Worth, in Sussex. There his friends frequently visited him and had many interesting talks. Once I remember asking him whether he did not think that there might be some future for the new reinforced concrete method of building, if some appropriate kind of architecture could be invented for it. 'Perhaps so,' he said; 'But, Jack, it's not architecture.' I expect he was right."

* * * *

Doubtless opinions will differ as to the merit of Philip Webb's houses, but there can be no shadow of a question about his remarkable ability as a draughtsman. It was he who drew the majority of the beasts and birds in Morris's wallpapers and textiles, and having seen for the first time quite recently some of the originals I can add my tribute to their marvellous quality. Beasts and birds could never be drawn better than Philip Webb drew them. Astonishing, indeed, his drawings are; full of intimate knowledge of natural life; most minutely finished, but not the least finicky—the very opposite to those stippled and worried drawings which clamour for a South Kensington certificate. And no less remarkable were Philip Webb's working drawings. "His sections for stone mouldings are the stoniest of profiles. They are masculine because he thought more of the stone than of style. . . . His sections for mouldings on oak were just those suitable for a strong wood, and what he drew by a kind of inspiration was exactly what the carpenter or carver can do best with his tools. . . . His drawings for wood-carving were done so well that they were rather an embarrassment to the carver who had to carry them out." Truly a remarkable draughtsman. Where are his drawings now? Some, I believe, are at the Fitzwilliam Museum, Cambridge. Others are in private possession. It would be worth while to gather them together as an exhibition of Philip Webb's great talent, which has been too long hidden from the public eye.

* * * *

The reference above to "purifying fires" needs perhaps a small comment. We may be sure that so soon as any watchword gets reiterated times without number, there will arise against it a prejudice in the minds of some people who have never been in sympathy with what it stands for. "Neo-Grec" finds itself in this position. Architects there are, of the dog-in-the-manger order, who cannot admit themselves satisfied with the present condition of things in their midst, yet are ever ready to disparage any attempt to improve matters. Neo-Grec has disturbed them. It has conjured up in their minds a vision of classical scholarship which, if truth must be said, they are ill acquainted with. Neo-Grec has taken them back and confronted them with a high ideal. Frankly they do not like this. But others more enlightened than themselves have seen the merit in the standard set up before them. They have gone whole-heartedly through the process of purging which is part and parcel of the Neo-Grec creed, and there is no gainsaying that they have benefited from it. And thus far we are on the road to better things.

UBIQUE.

THE RECONSTRUCTION OF BELGIUM.

In view of the great interest aroused by the recent publication in our columns of a series of articles on the reconstruction of Belgium, wherein a leading Belgian contractor for public works, in collaboration with the legal adviser to an important association of Belgian contractors, has set forth the practical needs of the problem, with details of the conditions under which the work will have to be carried out, it has been decided to reprint the articles in booklet form. Further particulars will be given in a forthcoming issue.



DESIGNS BY DANIEL MAROT. XII.—A GARDEN ENTRANCE.

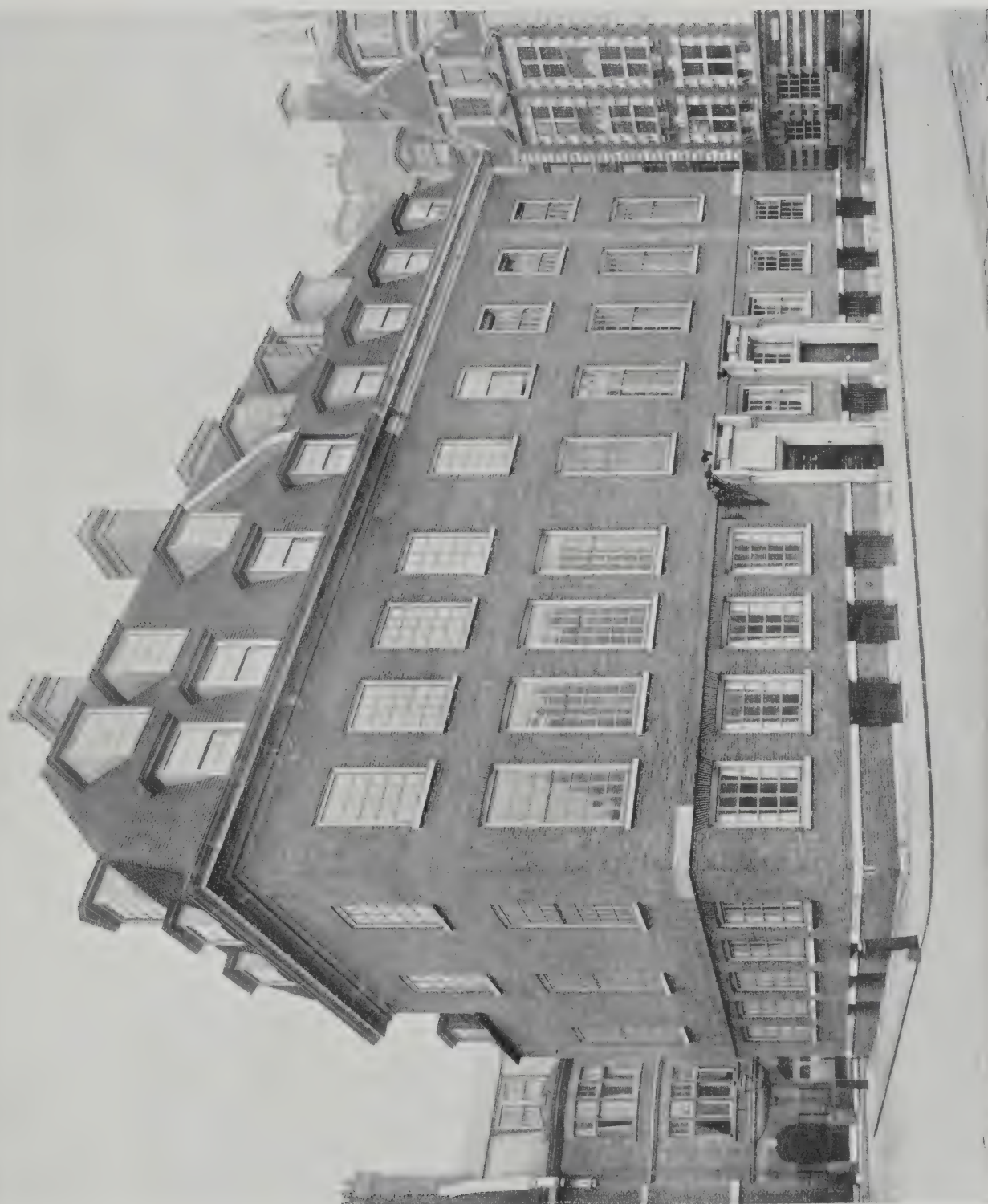
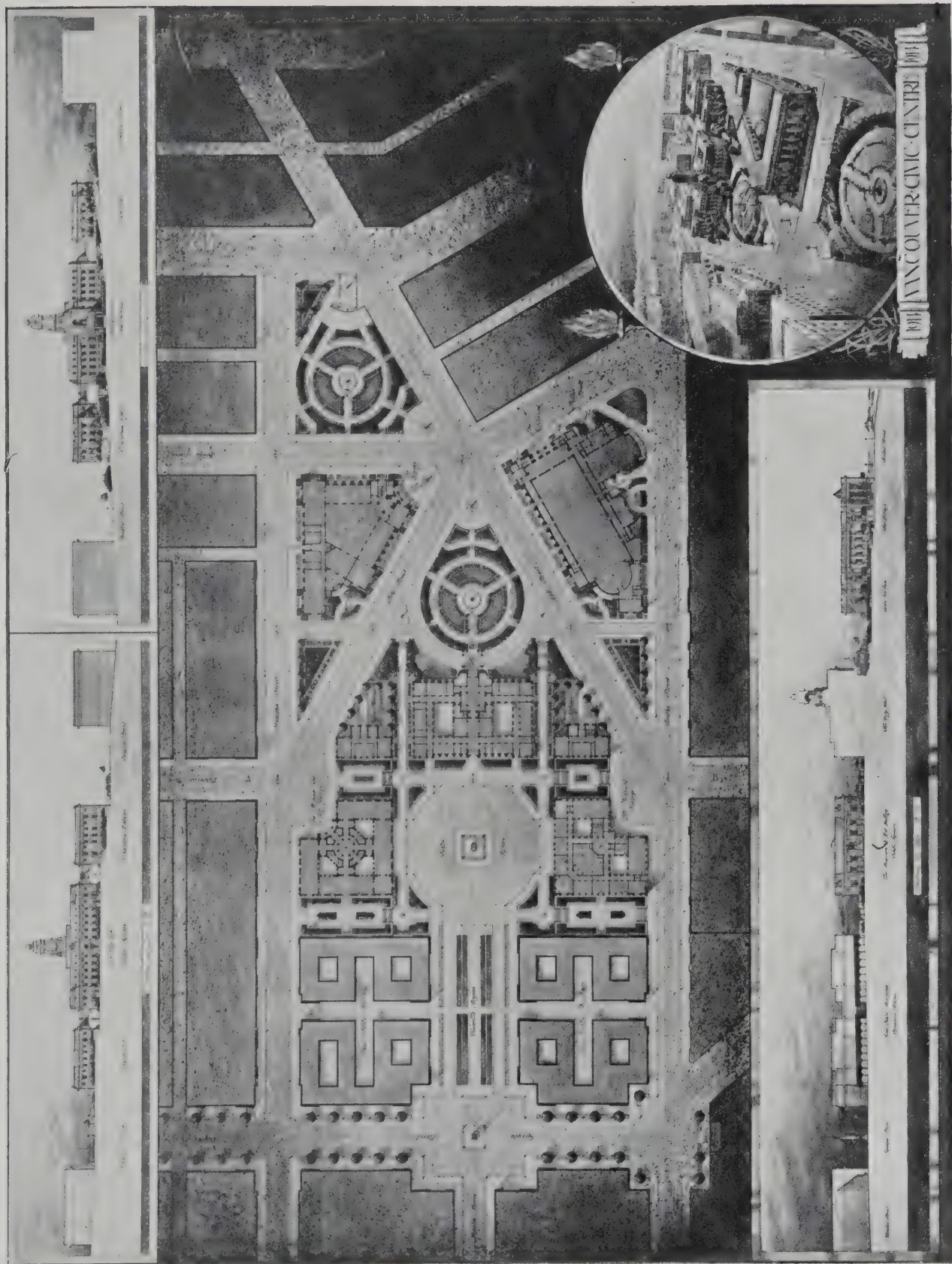


Photo: Bedford Lemere & Co.

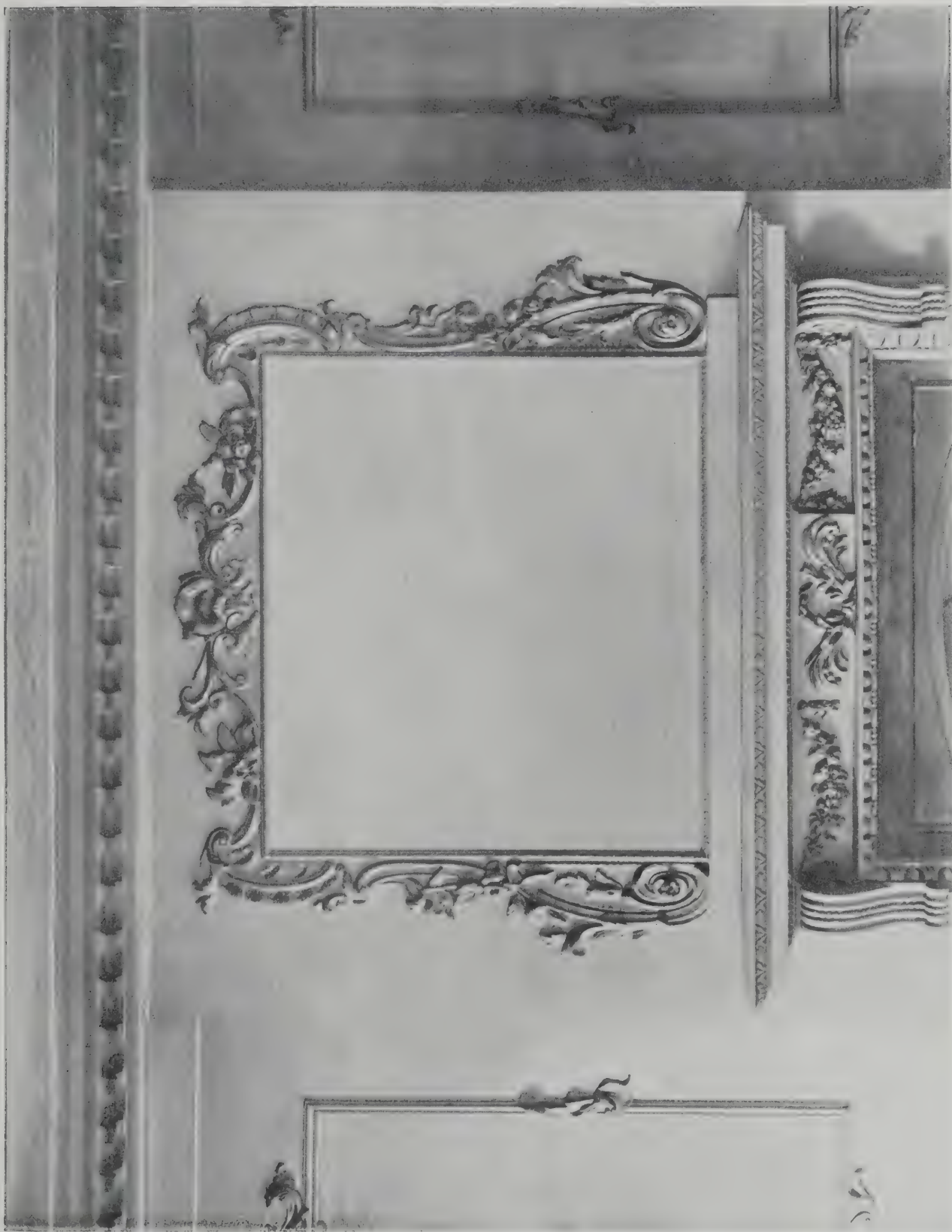
MODERN DOMESTIC ARCHITECTURE (SERIES II.). XVII.—CORNER HOUSES, COWLEY STREET AND LITTLE COLLEGE STREET,

WESTMINSTER. E. L. LUTYENS, A.R.A., F.R.I.B.A., ARCHITECT.

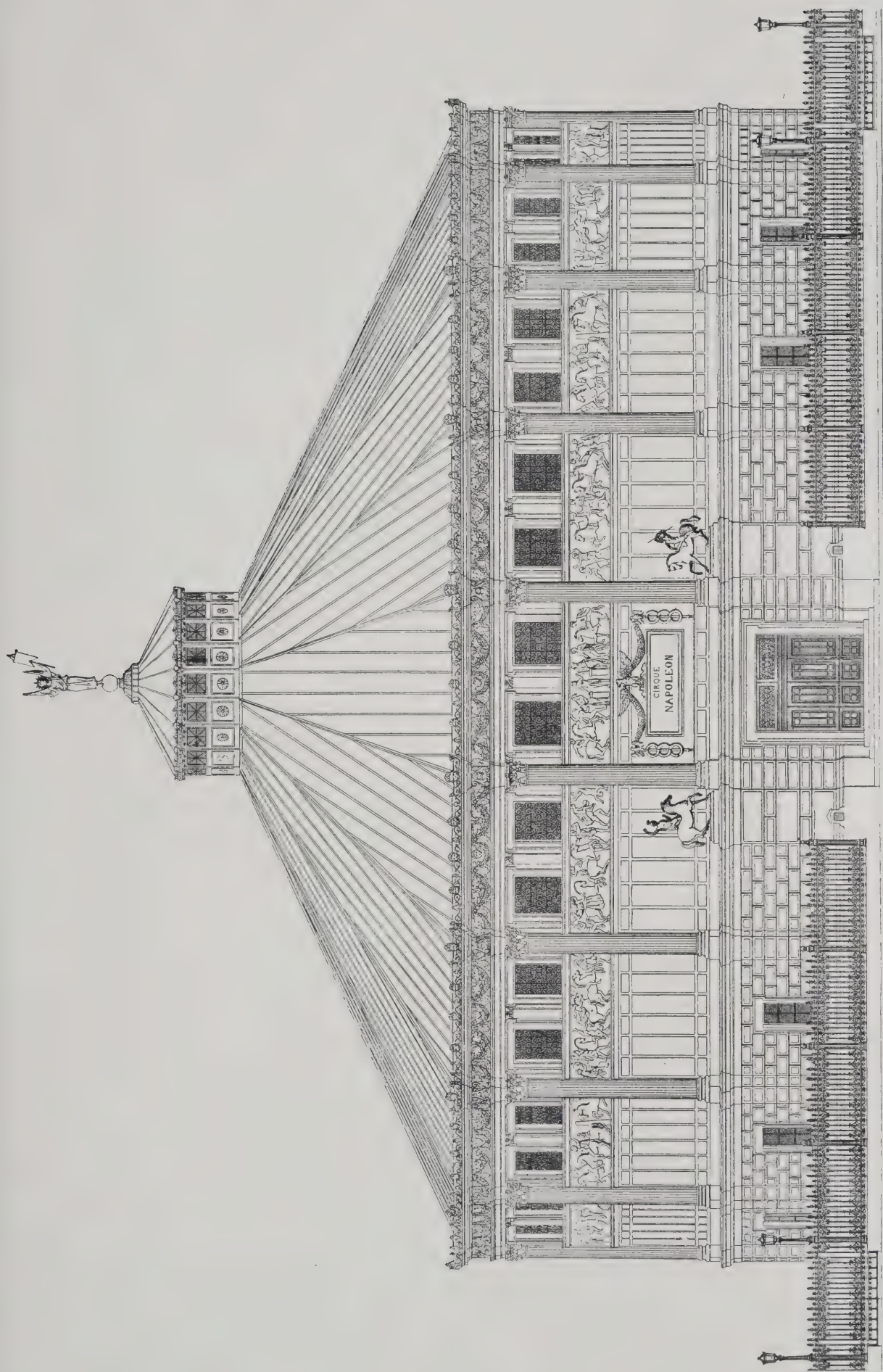


CURRENT ARCHITECTURE (SERIES II.). XXXIV.—SELECTED DESIGN FOR CIVIC CENTRE, VANCOUVER.

R. H. MATTOCKS AND T. KORNER, ARCHITECTS.



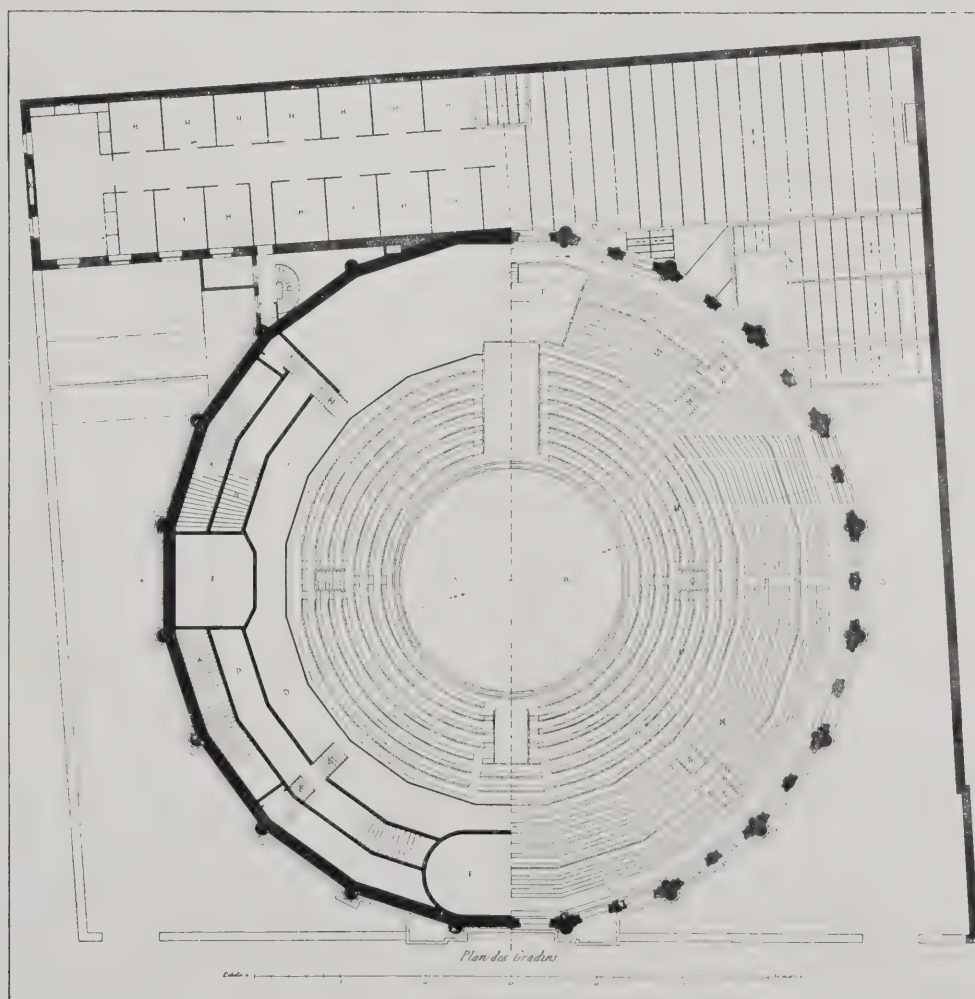
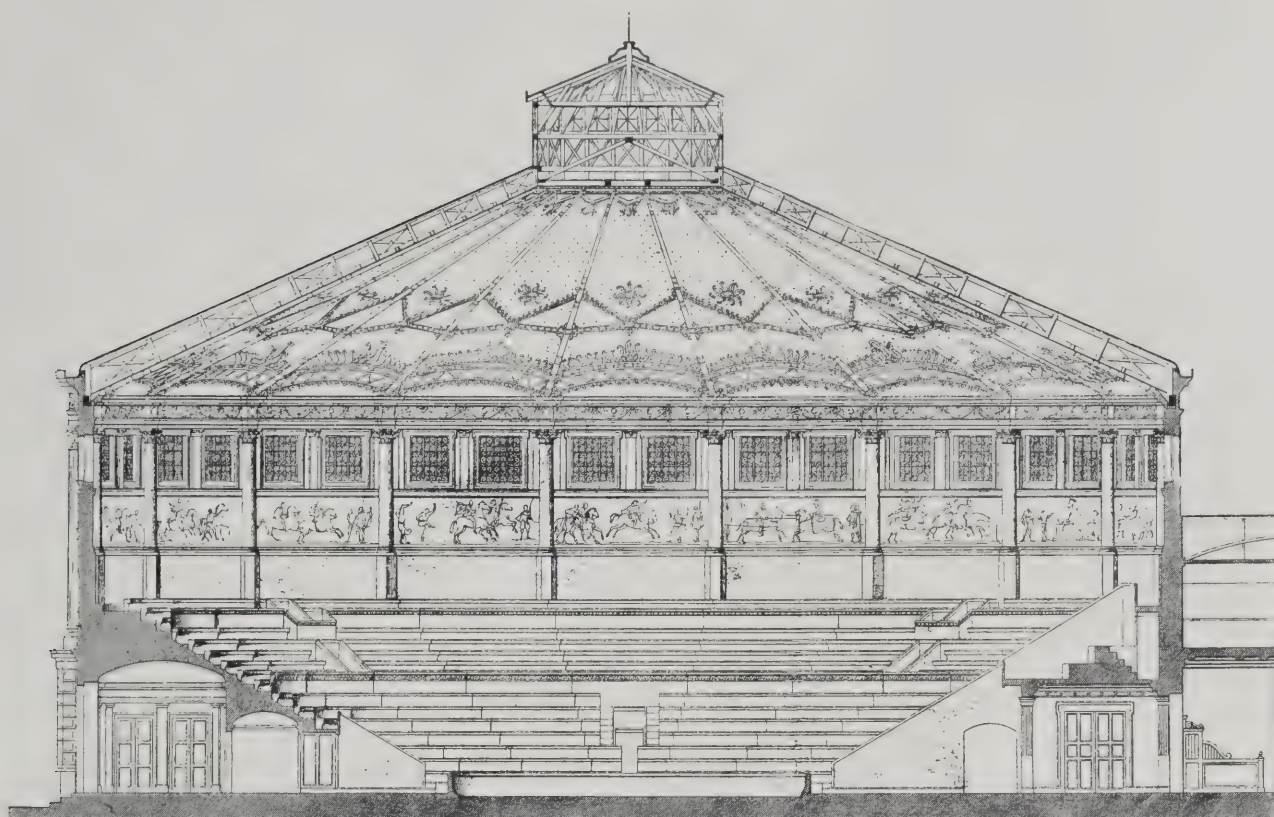
DETAILS OF CRAFTSMANSHIP. XXVI.—DECORATIVE PLASTERWORK ON CHIMNEYPIECE IN DINING-ROOM, No. 30, THE COURTYARD, ELTHAM.



NINETEENTH-CENTURY FRENCH ARCHITECTURE. XIII.—CIRQUE NAPOLEON, PARIS.

J. I. HITTORFF, ARCHITECT.

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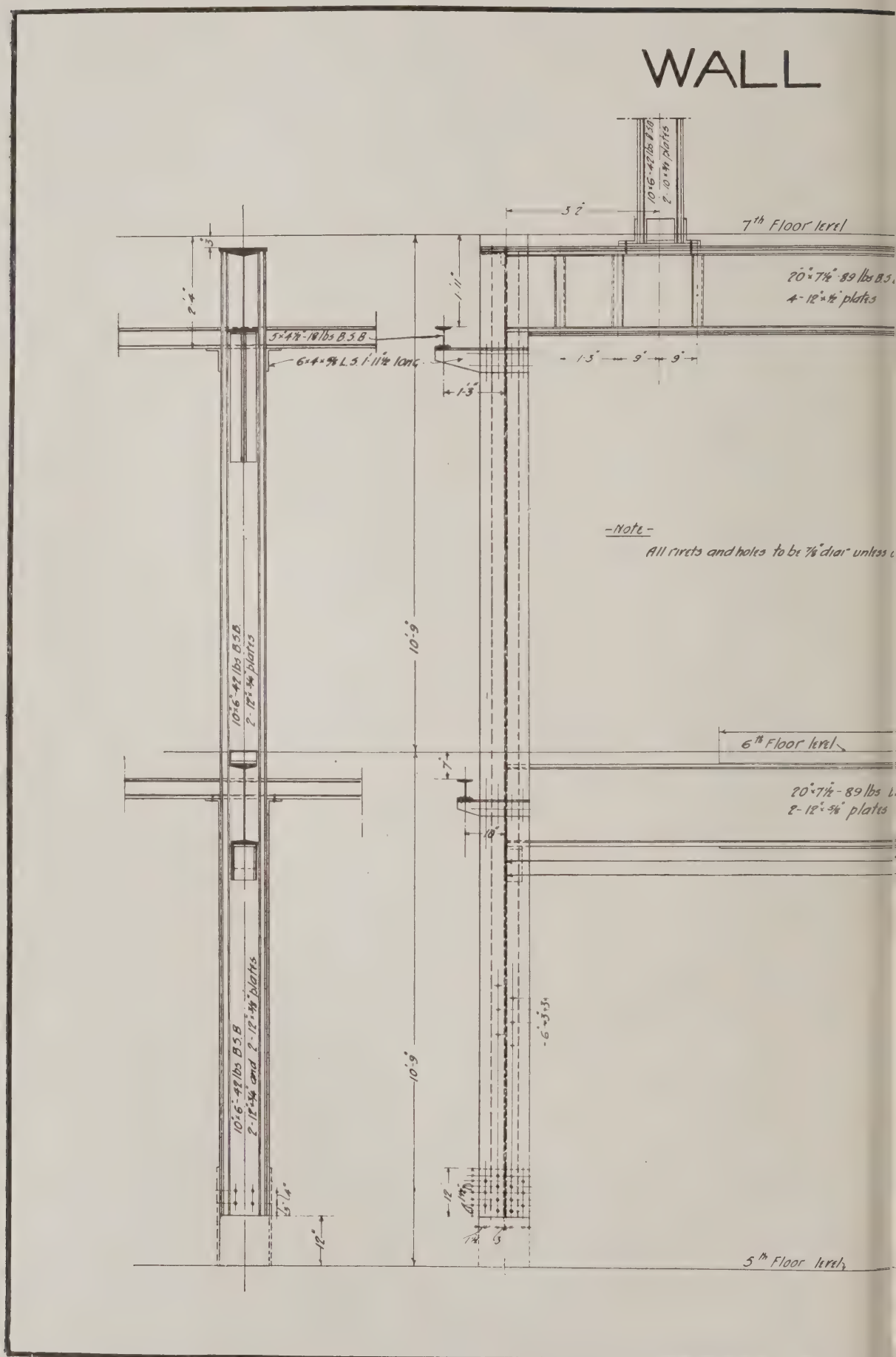


Left-hand side: A, B, C, Stairs; D, Passage; FF, Vestibules; HH, Artists' Rooms.
Right-hand side: M, N, O, S, Seat Tiers; P, Orchestra; Q, R, S, Exits.

NINETEENTH-CENTURY FRENCH ARCHITECTURE. XIV.—CIRQUE NAPOLÉON, PARIS.

J. I. HITTORFF, ARCHITECT.

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THE PLATES.

Garden Entrance by Marot.

DANIEL MAROT gained his reputation chiefly by designs for interior decoration. His designs for exterior schemes are not equally successful, but are nevertheless of much interest. The design for a garden entrance to a country mansion is very characteristic of his manner. It is not in any way a pure example of classical architecture, but there is a vigour about it which arrests the attention.

Two Corner Houses, Westminster.

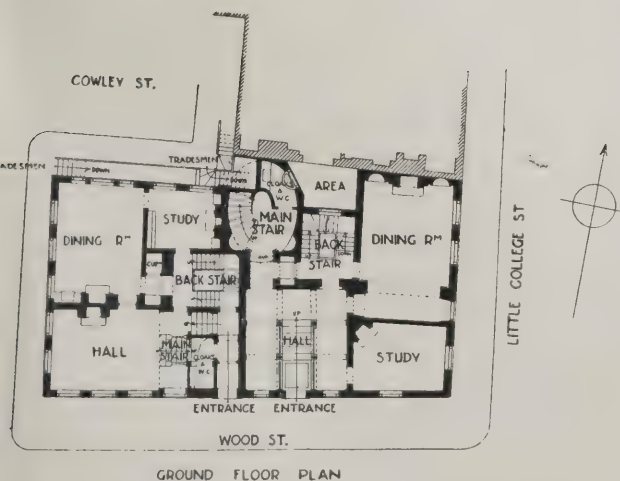
The district round about Westminster Abbey has undergone a remarkable change in recent years by the demolition of small property and the erection of large new business premises and private houses. Among the latter is the block of two houses on a site fronting Wood Street, Little College Street, and Cowley Street: one house being occupied by the Hon. Francis McLaren, M.P., the other by the Hon. Lady Norman. The building is carried out in red brick, with a tiled roof. Mr. E. L. Lutyens, A.R.A., was the architect. The arrangement of the ground and first floors is shown by the plans below.

Civic Centre, Vancouver.

Mr. Thomas Adams, Town Planning Adviser to the Commission of Conservation, Canada, was the assessor in the competition for the lay-out of a civic centre at Vancouver. The design awarded the first premium—£100—is by Mr. R. H. Mattocks (a holder of the Diploma of the Liverpool School of Civic Design) in partnership with Mr. T. Korner, of Bath. It shows a triangular space in front of the City Hall,



FIRST FLOOR PLAN



GROUND FLOOR PLAN

SCALE 0 10 20 30 40 50 60 70 FEET.

CORNER HOUSES, WOOD STREET AND LITTLE COLLEGE STREET, WESTMINSTER.

E. L. LUTYENS, A.R.A., ARCHITECT.

laid out with a circular garden, and flanked by the Library and the Auditorium. Beyond, at the rear of the City Hall, is a large public square having a Museum and Art Gallery and a Technical College on either side, and opening out on the axial line of the square is a wide pleached avenue bordered by semi-public buildings.

Decorative Plasterwork around Chimneypiece.

The axiom that ornament in interior decoration should be kept strictly within architectural lines of severe character has latterly been challenged, and, as a consequence, we have come to see merit in work which is much freer in style. Such is the case with the ornamental plasterwork around the chimneypiece at Eltham. It is an English version of Louis Quatorze, and the flow of its lines is very happy. The work is interesting, moreover, as indicating the possibilities of applied ornament as a permanent feature of interior decoration. In the room of which this chimneypiece forms a part there is a complete scheme of plaster decoration on walls and ceiling, and the effect is extremely pleasing. The work dates from the middle of the eighteenth century. It is carried out in two tones of blue.

Cirque Napoléon, Paris.

In 1838 Hittorff was approached by a M. Langlois to build a circular Panorama in the Champs Elysées, Paris, equal in diameter to the Pantheon at Rome. The structure was completed in 1840. From the successful execution of this work other commissions in the Champs Elysées rapidly followed, such as the erection of fountains, restaurants, cafés chantants, and other ornamental buildings, the most important being the Grand Cirque Olympique, completed in 1839. But by far the largest work and the most successful of this class was carried out by Hittorff in 1851—the "Cirque Napoléon" on the Boulevard des Filles du Calvaire, the erection of which only took nine months. The sculptural decorations are the work of Pradier and Duvet, the paintings being by M. Berrias. In this design Hittorff introduced a novel system of timber construction for the roof, which is expressed in the distribution of the columns and piers, both internal and external, which are treated as buttresses—a legitimate instance of the use of a semi-insulated decorative pillar. The extreme simplicity and straightforward character of the building is such as to demand study from all designers; the architectural scheme is sympathetic internally and externally; it is fresh and vivacious in style, while conforming to the academic in every respect.

Structural Steelwork: A Wall Stanchion.

This is described in the article on the next page.

CORRESPONDENCE.

The Editors disclaim all responsibility for the statements made or opinions expressed by correspondents, who are asked to be brief, and to write on one side only of the paper. Every communication must bear the name and address of the sender.

Stepney Municipal Buildings Competition.
To the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.

SIRS,—I think competition architects should be profoundly grateful in these distressful times to the "eminent architect" who so candidly displays his intimate knowledge of municipal planning and design in his light-hearted reassessing of this somewhat difficult problem.

H. S. EAST.

London, W.C.

[The above letter may be a generous acknowledgment to the writer of the critique, or it may be a scrap of sarcasm of the kind which disappointed competitors are wont to indulge in. We leave readers to "assess" the matter for themselves.—EDS. A. AND B.J.]

EXAMPLES OF STEEL FRAME CONSTRUCTION.—V.

BY PERCY J. WALDRAM, F.S.I.

(Continued from page 270, No. 1066.)

Wall Stanchion Carrying Main Floor Girders.

A stanchion in an outside wall fifth and sixth floors 10' 9" floor to floor with its web parallel to the wall. At the seventh floor level a main floor girder 34' span, consisting of a 20" \times 7 $\frac{1}{2}$ " joist and 12" \times 1" plates, carrying a seventh floor stanchion imposes a reaction of 70 tons. At the sixth floor, 10' 9" below, a similar main floor girder is carried imposing a reaction of 15 $\frac{1}{2}$ tons, and consisting of a 20" \times 7 $\frac{1}{2}$ " joist and 12" \times $\frac{5}{8}$ " plates 25" long. At the seventh floor, girders parallel with the wall, and carrying a cornice impose reactions of 2 $\frac{1}{2}$ tons on brackets on each side at 15" in front of the stanchion centre. At the floor below, similar joists are 10" in front of the stanchion axis, and impose reactions of 3 $\frac{1}{2}$ tons each.

Stresses Involved in a Column by the Deflection of an Attached Girder.

A girder rigidly attached to a column, as in Fig. 7, endeavours, when deflecting under load, to constrain the axis of the column to take up a slope similar to that which the girder end itself would assume if its ends were free. The stresses due to this tendency are usually neglected on interior columns, but in outside wall stanchions, where their effect would be most marked, they may be investigated with advantage.

The Slope of a Bended Girder.

The inclination of the vertical axis of the end of a girder deflecting under load is obviously identical with the slope of a line tangential to the curve of deflection, Fig. 7. This can, with sufficient accuracy for all practical purposes, be readily calculated for parallel girders,* and can be expressed either in terms of the loading on the girder or cantilever or of the flange stress involved by that particular degree of deformation.

The notation used in the following formulæ is:

- E = Modulus of elasticity of steel.
- D = Full depth of section.
- f = Extreme flange stress.
- L = Span of girder.
- I_b = Moment of inertia of beam.
- I_c = Moment of inertia of column.
- H = Height of column.
- H₁ = Length of column liable to simple bending.
- SM_c = Section modulus of column in plane of beam web.
- SM_b = Section modulus of girder in plane of its web.

It can be shown† that the end slope of a girder or cantilever deflecting under load, expressed as the trigonometrical tangent of the angle of inclination ($\frac{O}{M}$ Fig. 7) is $\frac{2G}{ED}$, in which G is the area of the flange stress diagram causing the deflection. In a girder of uniform section $\frac{2G}{ED}$ will be $2 \times \frac{1}{3} f \times \frac{L}{2} \div ED = \frac{2fL}{3ED}$.

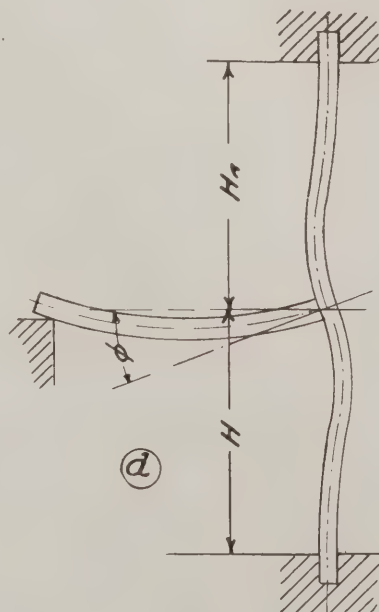
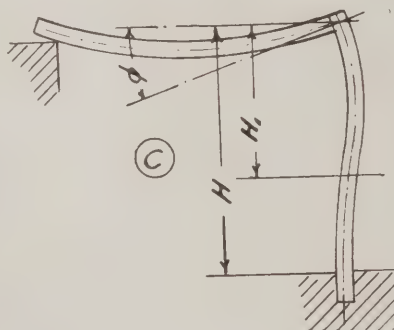
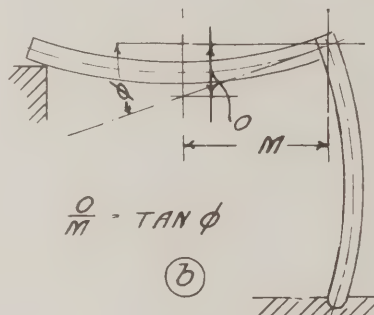
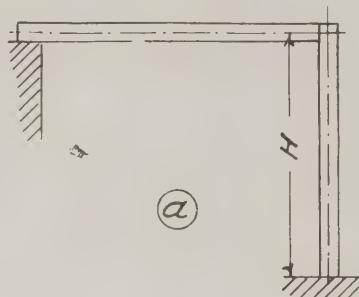


Fig. 7.

$$\text{As } f = \frac{BM}{SM} = \frac{BM \times y}{I} = \frac{WL \times y}{8 \times 2} \\ \text{the slope} = \frac{2 \times W \times L^2 \times D}{3 \times 16 I_b \times E \times D} \\ \frac{WL^2}{24 E I_b} = a. \quad (1)$$

If the girder could impose this slope at the end of the stanchion it would do so by means of a bending moment which would tend to throw the column foot outwards. The reaction to this effect would cause a bending moment on the column which would reach a maximum at the knuckle joint, and the column would be in the condition of a cantilever of length H₁ loaded at one end.

When the stanchion base is fixed continuous, as Fig. 7 (c), the length H₁ of the bending cantilever is only approximately one half the full length H of the column. If, in addition, the stanchion is continuous through an upper floor for height of H_a = H, as Fig. 7 (d) the equivalent length H₁ would be $\frac{H}{4}$.

The end slope of such a cantilever is $\frac{fH_1}{ED}$ and the bending moment which would produce a stress of f would be $\frac{f \times 2I_c}{D}$ or $f = \frac{BM \times D}{2I_c}$. Therefore, the stanchion adopts the full slope of the girder end, $a = \frac{fH_1}{ED} =$

$$\frac{BM \times D \times H_1}{2I_c \times E \times D} = \frac{BM \times H_1}{E \times I_c \times 2} \\ \frac{WL}{2 \times 12 E} \times \frac{L}{I_b} \cdot \text{If, therefore, the stanchion were unable to resist the distorting effort of the girder end, it would be subjected to a bending moment (BM) of}$$

$$BM = \frac{2EI_c \times a}{H_1} \quad (2)$$

$$\text{or } BM = \frac{WL}{12} \times \frac{I_c \times L}{I_b \times H_1} \quad (3)$$

Some German authorities have produced a series of formulæ, including (2) and (3) purporting to give the bending moment on outside wall stanchions and based on the assumption that the desire of the constrained end of the beam to bend the stanchion to its own slope necessarily subjects the stanchion to the effects of such bending, disregarding the fact that the stanchion may have some voice in the matter. Some writers in this country have also adopted these or similar formulæ and have in consequence advocated that it is necessary for the stanchion to be sufficiently strong to resist, not the three-fourths of the beam, but the full effect of that three-fourths being carried out.

It would follow from this, as can be seen from formula (3), that the moment of resistance of a stanchion must be increased in proportion to its own stiffness and sturdiness as compared to the length and flexibility of the beam attached to it, viz. as $\frac{I_c}{H_1} : \frac{I_b}{L}$. Upon such reasoning the loading of a thin twig growing on a stout tree trunk ought to impose an enormous bending moment on the trunk.

*Fidler's "Bridge Construction," Griffin, pp. 82-133.
† ("Principles of Structural Mechanics," Batsford, page 186).

* "Principles of Structural Mechanics," p. 191.

The aggressive bending moment at the end of a fixed beam is, however, just as limited and definite as that at the end of a cantilever. In the case of a beam carrying a uniformly distributed load W , it can reach the limit of $\frac{WL}{12}$ but only whilst the vertical axis of the end of the beam is rigidly anchored or otherwise held in the vertical position which it adopts when the beam is unloaded. If the anchorage or other fixing agency yields, then the moment of $\frac{WL}{12}$ is reduced. It is not like a vertical load which is equally capable of distressing the fibres of a beam at all phases of that beam's deflection. It can only threaten to act at full power when the end of the anchorage remains absolutely rigid and holds the beam vertical. As the stanchion yields it decreases until, when the beam end has taken up its full slope, the reverse bending moment disappears altogether. What takes place can perhaps be more clearly grasped if the case be considered of a girder, Fig. 8, the underside of which

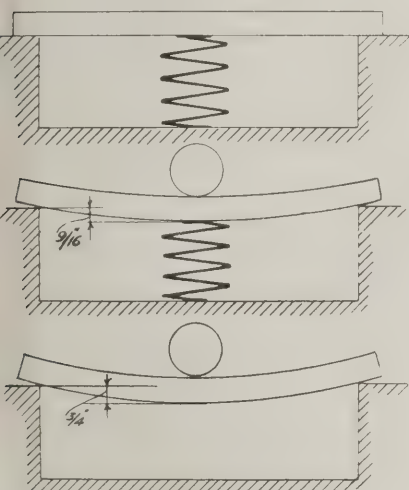


Fig. 8.

first touches, when the girder is unloaded, the fully extended central spring. Let the vertical deformation of the spring be $\frac{1}{4}$ " for every cwt. of load, and let the normal deflection of the girder without the spring be $\frac{3}{4}$ " under a load of 9 cwt. The utmost limit of movement being $\frac{3}{4}$ ", it is obvious that the greatest compression which can be received by the spring from a beam load of 9 cwt. is 3 cwt. only.

But this would be equivalent to a reduction of the beam load from 9 cwt. to 6 cwt. Obviously the task of holding up the 9 cwt. load will be shared between the beam and the spring, and the proportion taken by each will depend upon their relative stiffness. The load which uses a vertical deformation of $\frac{1}{4}$ " on the spring is 1 cwt., and in the girder 8 cwt. The girder therefore supplies

$\frac{8}{9}$ of the total resistance, and will

take $\frac{3}{9}$ of the load, viz.: $9 \times \frac{3}{9}$ cwt. = 3 cwt. under which it would deflect $\frac{3}{4} \times \frac{3}{9} = \frac{1}{4}$ " ; whilst the spring will carry the balance of $2\frac{1}{4}$ cwt., under which load its deflection will of course be $\frac{1}{4} \times 2\frac{1}{4} = \frac{1}{4}$ " .

If "a" represent the deflection of a beam under a given load, and "b" that of the spring under the same load, then

their relative stiffness is as $\frac{1}{a} : \frac{1}{b}$. If the ratio $\frac{\text{stiffness of spring}}{\text{stiffness of beam}} = x$, then the proportion of the load taken by the spring $= \frac{x}{x+1}$ and the balance $\frac{1}{x+1}$ will be the proportion taken by the beam. This can be calculated graphically as in Fig. 9.

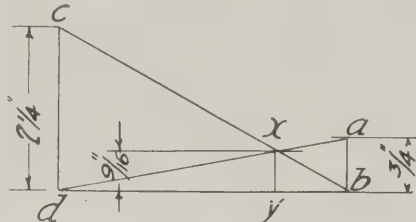


Fig. 9.

At any horizontal distance apart, erect two perpendiculars, a b representing the extent to which the girder deflects under a given load or bending moment, and c d the similar distortion of the spring under the same load. Join a d and c b, then a vertical "x y" dropped from the intersection "x" will be the deflection ($\frac{9}{16}$ ") and $\frac{xy}{ab} = \frac{9}{8} = \frac{3}{4}$ = the proportion of the total task taken by the stiffer or more willing partner in the combination, and $\frac{xy}{cd} = \frac{1}{4}$ = the proportion taken by the more flexible or lazier partner.

The beam and stanchion work together in a similar manner. Their task is to support jointly the distributed load under which the beam on account of the central bending moment of $\frac{WL}{8}$ would deflect

(if its ends were not fixed) to the slope "a" = $\frac{WL}{12} \times \frac{L}{2I_b E} = \text{BM} \times \frac{L}{2I_b E}$.

The resistance of the stanchion, however, tends to create an assisting reverse bending moment at the end of the beam, which bending moment could amount to $\frac{WL}{12}$ as a maximum if the stanchion and joint were absolutely rigid. In that case the bending moment at the centre of the beam would be reduced from $\frac{WL}{8}$ to $\frac{WL}{8} - \frac{WL}{12} = \frac{WL}{24}$.

The column acts in fact just as the spring in Fig. 8, but placed at the end of the beam instead of in the middle. The end slope (b) of the column acting as a cantilever of uniform section under end loading will be $b = \text{BM} \times \frac{L}{H}$.

The relative deformations of the beam and girder under a given bending moment being as a : b, their relative

stiffnesses are as $\frac{1}{a} : \frac{1}{b}$. The factors BM and E being identical, the ratio $\frac{\text{stiffness of column}}{\text{stiffness of beam}}$

will be $\frac{I_c}{I_b} \times \frac{L}{H} = x$. The

proportion of the BM taken by the column and therefore imposed on the beam

end = $\frac{WL}{12} \times \frac{x}{x+1} = y$, and the bending moment in the centre of the girder will be reduced to $\frac{WL}{8} - y$. Under these reduced tasks the column and the beam end will both tend to assume the same slope.

Taking the case shown in Fig. 10:

$I_b = 315.41 = 168$ ".

$I_c = 1711, H = 10' 0"$. $H_1 = 30$ ".

$W = 18$ tons.

$\frac{WL}{12} = 252$ inch-tons.

$E = 13,000$ tons per sq. inch.

The tangent of the angle of end slope ϕ which the girder would adopt if the ends

were free would be $\frac{WL \times L}{12 \times 2E I_b}$ -

$\frac{252 \times 168}{2 \times 13000 \times 315.4} = \text{say } \frac{1}{200}$ or on a depth of 12" = say $\frac{1}{17}$ ". The tangent of the angle of end slope of the stanchion under a BM of $\frac{W}{12}$ would be $\frac{WL}{12} \times \frac{H}{2 \times I_c \times E} = \frac{252 \times 30}{2 \times 1711 \times 13000} = \frac{1}{5960}$ or on a depth of 12" say, $\frac{1}{500}$.

$x = \frac{I_c}{I_b} \times \frac{168}{30} = \frac{1711}{315.4} \times \frac{168}{30} = 30.3$ and $\frac{x}{x+1} = \frac{30}{31}$. The reverse BM at the

end of the beam will be $252 \times \frac{30}{31} = 243.8$.

The slope of the end of the beam will be $\frac{1}{200} \times \frac{252 - 243.8}{252} = \frac{1}{200} \times \frac{8.2}{252} = \frac{1}{6100}$ and should be equal to the column slope which will be $\frac{243.8 \times 30}{2 \times 1711 \times 13000} = \frac{1}{6100}$.

(To be continued.)

This series of articles began in our issue of April 14, with a discussion of Compound Girders. Riveted Plate Girders were dealt with on April 28, Riveted Stanchions under Eccentric Loads on May 12, Grillage Foundations on June 9. Questions and comments on the article of May 12 are dealt with by the author in our issue of May 26.

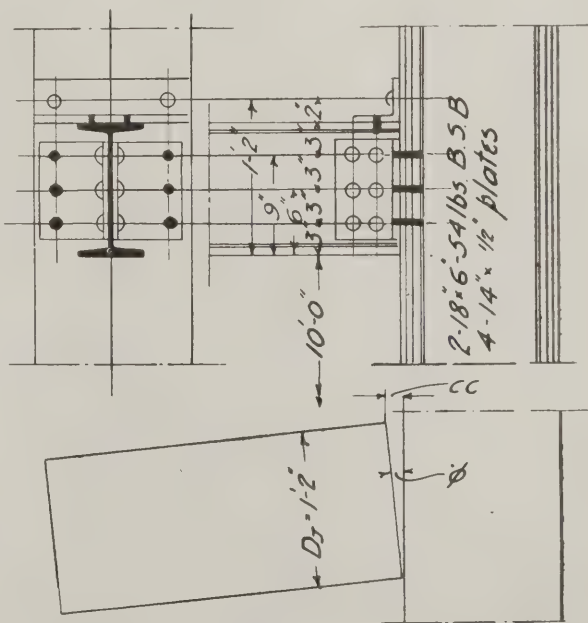


Fig. 10.

ENQUIRIES ANSWERED.

Blue Brick Damp-course.

F. H. (Bristol) writes: "Are Cattybrook blue bricks effective for damp-coursing?"—Any vitrified brick (such as the Cattybrook) is capable of use as an efficient damp-course, and blue bricks have been largely used by railway engineers for this purpose. Cement joints are necessary, and at least four courses advisable, and as the labour of supervision is much increased over that of other more usual damp-course materials, the latter are generally preferred in ordinary work. Railway companies are also immune from the interference of local authorities, whose requirements and ideas as to damp-course materials differ considerably. G.

Floor Dusting Up.

S. (Warwickshire) writes: "A floor, 1½ in. thick (1 of cement to 3 of fine granite), on being subjected to traffic, has produced a considerable amount of fine powdered dust. Is this merely the fine surface wearing off, so that the nuisance may be expected to cease? Is this a common trouble? Is there any method of treating such a floor with a chemical liquid spray that would crystallise the surface?"

—The complaint is a common one. It cannot be positively stated without inspection, but the nuisance is generally due either to the use of too fine granite chippings containing a considerable proportion of dust, or to insufficient labour on the surface. If coarse chippings are used, and the surface is well worked so as to bring granite to the surface, very little "dusting up" usually takes place. It may be that in the case cited the nuisance will cease, but the trouble is so common that several special preparations exist for combating it, such as Glidden's concrete floor-dressing (Glidden Varnish Co., 86, Clerkenwell Road, London, E.C.) or Ironite (1, Victoria Street, London, S.W.). G.

Powers of Sanitary Authorities Concerning Drains.

Promus (Yorks) writes: "Have sanitary inspectors and building inspectors unlimited powers to condemn drains? Permission was obtained to add a new w.c. to the sanitary conveniences of a house on plans showing a connection to existing drain about a foot away from the outwall. Formal approval was given, with a footnote to the effect that approval was given subject to the drains being made to the satisfaction of the authorities. Would it be reasonable to expect that the whole of the drainage to the house could be condemned and relaying enforced under that clause, or have officials power independently of such a clause? This footnote is generally added where connections to existing drains are intended. When the old drain was exposed it was found to be of socketed pot pipes, clay-jointed, to the short portion uncovered, and not broken or disturbed. I was under the impression that the onus of proof lay with the authorities before condemning a drain, yet in this case the small portion exposed was taken as sufficient grounds for having the whole drain relaid up to the public sewer connection, and no existing branches were allowed to be reconnected to the new drain unless these also were relaid, resulting in a completely new drain service. The old drains took sewage, and were doing their work satisfactorily, but were not cement-jointed. I contend that an old drain is not necessarily a bad one, and that this drain was condemned without proof. In such a

case, what steps in future should be taken to resist what appears to be autocratic methods causing unnecessary expense in adding to household conveniences? Also, can approval be given to plans conditionally? Is not a definite approval or disapproval lawfully necessary?"

—Querist's position is unfortunate but unavoidable. There is nothing in his statement to show that the local authority acted unreasonably or in excess of their powers. The important point in any building work is compliance with the by-laws—approval or disapproval of plans is relatively unimportant. Submission is the only thing that can be required, and if a local authority refuses to approve plans submitted, or attaches conditions beyond their powers, the aggrieved party may proceed with the work, and, so long as the by-laws (and regulations legally made thereunder) are complied with the authority would fail to obtain a conviction. As to the particular case mentioned, it is obviously impossible for a council to "buy a pig in a poke" and give unconditional approval to an alteration to a drain yet unexposed—their approval would relate solely to the plan, as a suggested arrangement. The onus of proof that the drain is bad certainly rests with the council, and in future cases querist (if he thinks it advisable) could decline to comply with their request to relay the old clay-jointed drain, but in the practical certainty that a test would then be applied, under which it would fail. No doubt the old drain was doing its work, and would have continued so to do, and there is an element of unfairness in subjecting such drains to destructive tests, but no strong hope can be given that such action, with its consequences, could be successfully resisted. G.

Building Line.

L. writes: "A client of mine has bought a plot of land, and on the deeds the building line is indicated by a dotted line with the dimension 15 ft. figured thereon. The local Council will not pass the plans for the proposed building unless my client sets back 20 ft., thus losing 5 ft. on the building, as it is his intention to utilise every bit of the land, less the necessary air-space required by the by-laws. Has he any redress from the vendor; can he claim compensation?"

—The requirements of the local by-laws certainly do not affect the bargain with the vendor of the building plot—he has done his part and only restricts buildings in front of the fifteen-foot line. The Sanitary Authority no doubt base their refusal to allow building in front of the twenty-foot line on Section 156 of the Public Health Act, 1875 (and its amendment) by which no building in a street may project in front of the buildings on either side of it. F. S. I.

Liability to Sub-contractor.

Lex (Cardiff) writes: "In your issue of August 5, 1914, there is a report of an action in the King's Bench Division, before Mr. Justice Horridge, in which a firm of heating engineers sued Glamorgan County Council to recover balance of an account for a heating installation in a school. Mr. Justice Horridge held that the Council became principals through their agent, the chief contractor, and were therefore liable in the amount claimed. I understand, however, that this judgment was reversed on appeal, but have seen no report of this sequel. Can you refer me to one?"—The appeal in Hampton v. Glamorgan County Council was heard on March 19, 1915, before

Lords Justices Buckley, Pickford, and Bankes. This was an appeal by the defendants from a judgment of Mr. Justice Horridge, awarding the plaintiff, Mr. R. Hampton, trading as Messrs. Hampton and Co., of City Road, Cardiff, heating engineers, the sum of £197 odd balance of account for heating apparatus supplied to a girls' school at Pontypridd.

The claim arose in the following circumstances: Mr. S. Shail, a builder, of Cardiff, obtained a contract from the council to build an intermediate school at Treforest. Messrs. Hampton and Co. submitted an estimate for heating the school buildings to the architects, who, it was stated, accepted the tender of £3,000 and the plaintiffs carried out the work. One payment of £200 was made on account by the contractor. Plaintiffs' claim was that the architects promised to pay them for the work, and therefore they held that the county council was liable for the balance.

The council submitted that the plaintiffs were doing the work for the chief contractor, and should look to him for the money. The council disputed liability, and further, said that they had never given the architects authority to act as their agent.

Mr. Justice Horridge said the question to be decided was whether the contract made by Mr. Shail with plaintiffs was entered into on his own behalf, or whether it made the county council principals. In his Lordship's opinion, the council became principals through their agent Shail, and therefore he held that the plaintiffs were entitled to judgment for the amount claimed.

From this the defendants appealed.

Mr. A. Roche, K.C., argued the case for the appellants, and said the judgment of the Judge was wrong as the correspondence showed. If the judgment of the Judge were correct, all building contracts would be liable to be upset. The architects approved of the plaintiff as sub-contractor, but they made no contract between Hampton and the council, as the apparatus was provided for in the chief contract.

Mr. Fortune, for the respondent, supported the judgment, and said the architects had wide powers, and from the correspondence it was clear that they intended Hampton to deal direct with the council, Shail being merely the agent.

In the end the Court held that the contract was not between Hampton and the council, but between Hampton and Shail. The appeal was allowed and judgment entered for the defendants with costs. J. S. G.

OBITUARY.

Mr. Lewis Sheppard.

Mr. Lewis Sheppard, who has died in his residence in Worcester, at the age of seventy, was for twelve years Diocesan Architect of Worcester, a position which he resigned ten years ago, when he retired from practice. He began practice in Worcester in 1876. He restored the churches of Arley, Hindlip, and Dodderhill, and designed the Chance Memorial at Malvern, Wychbold Church and rectory, the rectory of St. Stephen's at Worcester, and Finstall Rectory. He rebuilt Severn End (the residence of Sir Edmund Lechmere), made an extensive addition to the King Edward VII. Grammar School at Bromsgrove, and designed, by special request, after his retirement the Lascelles Almshouses in Worcester. His elder son, Mr. G. Lewis Sheppard, who succeeded his father's practice, is now with the Royal Engineers.

MANCHESTER SCHOOL OF ARCHITECTURE SKETCH BOOK.

"Sketch Book" is an expression that, applied to the portfolios of drawings used by schools of architecture, has by good deal outgrown its primal significance. There is, for example, no clear indication of it in the fine portfolio that has just been issued by the Manchester School of Architecture, and it would have been well if, in this first of a new series, the more precise or more fitting designation had been adopted. Of the nineteen sketches comprised in the portfolio, seven show the firmness and precision that may not be the very antithesis of sketching, but are at all events essential virtues of measured drawing, and the other two are from photographs.

Only three draughtsmen—Messrs. Gordon, G. Howcroft, and W. O. Jones—are represented, and they have co-operated in the illustration of only one subject, the portfolio being really a monograph on the Manchester Old Town Hall, of which a full account by Mr. R. S. Moore prefaces the drawings. Mr. Moore's first paragraph continues a few slight inaccuracies, says, or is made to say: "The beginning of the nineteenth century saw in England a period of architecture usually called the Greek Revival," a movement which was stimulated by the publication of such works as Stewart and Revett's 'Antiquities of Athens' (1762), Adams' 'Spalatro' (1764), and further, by the importation of Elgin Marbles during the years 1801-3." Passing over as of no importance the structure of the sentence, which creates momentary doubt as to whether the "antiquities" preceded or followed the Greek Revival, one notes that James Hart did not spell his surname with a "t" that the first volume of the "Antiquities" was published in 1761; that it was Adams, but Robert Adam, who published in 1764 the "Ruins of the Palace of the Emperor Diocletian at Spalatro in Dalmatia." "Spalatro," however, is a primitive and more modern rendering than Spalatro.

These, however, are but trivial blemishes in an admirable succinct account of the Old Town Hall, the erection of which, Mr. Moore says, was begun in 1819, to the design of Francis Goodwin. "The main front is a copy of that of the East Porch of the Erechtheion at Athens, while the side door is also after that in the North Porch of the same building. The lantern is similar to the upper portion of the Horon of Andronikos Kyrrhestes, commonly called the 'Tower of the Winds,' at Athens. The total cost of the site and building complete was £40,000, and in 1833 the site alone was sold for £161,750." Inside and out, the building was considerably maltreated, and in 1912 it was demolished. As our readers are aware, the Manchester Society of Architects succeeded in persuading the citizens to preserve the façade for re-erection in Victoria Park.

The plates are excellent specimens of neat and clean draughtsmanship, which rises to high excellence in the rendering of delicate decorative details. One is glad to see that special care has been given to lettering, much of which is singularly beautiful, adding a grace to the plates on which it appears; although we think that Mr. Gordon Hemm, who has an enviable mastery in this medium of expression, could do well to restrain a slight tendency to exuberance in it. An admirable process

of reproduction has been adopted, with effects that are not markedly inferior to those of collotype.

Manchester School of Architecture Sketch Book, No. 1. Subject: Old Town Hall, Manchester. Manchester: At the University Press, Longmans, Green and Co., London, New York, Bombay, etc., 1915. Portfolio, 13 in. by 20 in., price 10s. 6d. net.

ARCHITECTS' PROFESSIONAL EMPLOYMENT COMMITTEE.

Advisory Committee.

It is felt that owing to the war there may be architects who are more in need of advice regarding their professional affairs than of any other form of assistance. To meet such cases, the Professional Employment Committee has constituted a small Advisory Committee, the members of which are prepared to give applicants the benefit of their personal experience and advice, with a view of finding some solution to the applicants' difficulties. The idea is that of personal service, and the Professional Employment Committee has been fortunate in securing the co-operation of Messrs. Henry T. Hare, F.R.I.B.A., Gerald C. Horsley, F.R.I.B.A., and Paul Waterhouse, F.R.I.B.A., to form the Advisory Committee, and to whom will be referred any applications received by the Professional Employment Committee, of the kind indicated.

Professional Employment in War Time.

The Professional Employment Committee of the Architects' War Committee loses no opportunity of turning to good account any circumstances which may assist it in providing paid work for architects who are in distress owing to the war.

An instance of this occurred when the "Clan Grant" was sunk by the "Emden," and, with her, Professor Geddes' collection of drawings en route for Madras to illustrate his lectures on cities and town-planning.

On hearing of the disaster, the Committee at once set a number of architects at work to replace the drawings lost, from Professor Geddes' original notes, and the news that the work was in hand was cabled to him. It seems from a communication recently received from Professor Geddes expressing his appreciation of the work accomplished by all concerned, that the cable crossed his letter asking for the help which had been given already in anticipation.

He was not only delighted but surprised at the quantity as well as the quality of the exhibits sent out to Madras, where the first Cities and Town-Planning Exhibition was held. This exhibition was attended by representatives of most of the sixty-five towns and cities of the Presidency, which roughly compares in population and extent to the United Kingdom. Their leading citizens and professional men, engineers, and others, attended, and for the latter there were held practical classes in connection with the improvements in progress. Something of the same kind will be done in Bombay and Calcutta.

Professor Geddes expresses the hope that the assistance which the Committee has rendered to him is but a phase of that wider co-operation which is so desirable towards the renewal of cities, whether those destroyed by war abroad, or those deteriorated in peace at home.

The address of the Professional Employment Committee is 28, Bedford Square, W.C.

NEWS ITEMS.

London County and Westminster Bank.

The directors of the London County and Westminster Bank, Ltd., have declared an interim dividend of 9 per cent. for the half-year ended June 30. The dividend, 9s. per share (less income-tax), will be payable on August 3.

Changes of Address.

Mr. C. H. B. Quennell, F.R.I.B.A., has moved his office from 21, Great Peter Street, to 17, Victoria Street, Westminster. New telephone number: Victoria 6654.

Messrs. Moscrop-Young and Glanfield, Licentiate and A.R.I.B.A., have removed their offices from 20, Brook Street, W., to 72, Oxford Street, W. Telephone: 2724 Museum.

Monuments to Miners.

Two marble statues, erected at Chesterfield to two of the founders of the Derbyshire Miners' Association, the late Mr. James Haslam, M.P., and Mr. W. E. Harvey, M.P., are of white marble, each standing on a pedestal of Derbyshire stone, on which are carved laurel leaves and the miner's pick and safety lamp. The memorials, which are 15 ft. high, are the work of Mr. J. Whitehead, of London.

Town-Planning Course at Glasgow Technical College.

It has been decided that a class on Town-Planning should be included in the curriculum of the Engineering course of the Glasgow Technical College. The feeling of the committee was that the subject of town-planning as a course was entirely one of engineering. The architect could, of course, be of great service, but to a large extent the preliminary work was work for the engineer. The minute was approved.

New Police and Fire Station, Kirkintilloch.

The new police and fire station erected on the north side of the Kirkintilloch Road, Bishopbriggs, near the car terminus, has now reached completion. Designed by Mr. James Lochhead, Hamilton, the building consists of a police station with houses for married constables and accommodation for single constables, and a fire station with house for mechanic. The cost of the new station is about £6,500.

Miners' Garden Village, Oswestry.

Oswestry District Council have provisionally approved plans for a garden village at Weston Rhyn, in a colliery district on the Welsh border. The local company has not yet been registered, and the Welsh Town-Planning Trust is at present undertaking the work. Twenty-one houses are to be built immediately, and the number will be extended to 100 of various types.

Ruined Reims.

With the title of "Glory that was Reims," an exhibition of a remarkable series of two hundred photographs of Reims Cathedral is to be opened to-day, July 14—The French National Fête Day—at the Leicester Galleries, Leicester Square. The photographs were taken by the sculptor to the Cathedral, who has been engaged on the work of restoration during the past twenty years. Side by side with them are shown photographs of Reims after the bombardment. The exhibition is being held simultaneously with one organised in Paris at the Musée des Arts Décoratifs of the Louvre, and collections of the same views will be exhibited at the municipal galleries of the principal

English cities during the next few months. The proceeds of the admissions to the exhibition at the Leicester Galleries will be devoted to a French Relief Fund.

School of Architecture, University College, London.

In connection with the work of the Session 1914-15, the following awards have been made in the School of Architecture at University College:—Department of Town Planning: Lever Prizes in Town Planning—A. G. Wood, H. N. Fisher, L. H. Shattock. Lever Prizes in Architecture—H. N. Fisher, I. Reicher. Town Planning: Certificate—H. N. Fisher.

An Open-Air Military Hospital.

Last October a residence in Manchester was fitted up as a hospital, and, additional beds being required, it was decided to erect an open-air ward in the grounds. The ward, which is a wooden structure, has one side open, with only blinds to keep off the rain that may drip from the trees above, and the roof slopes upwards to a lattice clerestory. The hospital is described as being erected "in the Norwegian style," and as being the first of its kind in the county. A similar hospital, which has been in existence at Cambridge for some time, has given excellent results.

Concrete Road Composition.

In a patent applied for by Mr. R. Houben, Brussels, concrete, after being mixed with water in the usual way, is mixed with an elastic powdered absorbent material, such as cork, sawdust, leather, or cotton, which has been impregnated with a liquid, such as a heated mixture of tar and bitumen, which renders it impermeable. In an example, a mixture of 400 to 500 parts of cement, 600 parts of sand, 1,200 parts of broken stones, and water is mixed with 80 to 100 parts of a mixture consisting of 6 parts of sawdust and 5 parts of a mixture of 10 parts of bitumen and 100 parts of tar. The product is intended to be used for covering large surfaces such as roads.

WAR-TIME WAGES CONCESSIONS.

Bournemouth

Bournemouth and District Master Builders' and Decorators' Association announce that as a result of the arbitration proceedings held before his Honour Judge O'Connor, K.C., appointed by the Board of Trade, the wages payable to operatives in the building trades of Bournemouth are increased as follows:—Carpenters, joiners, bricklayers, plasterers, plumbers, and painters, $\frac{1}{2}$ d. per hour, and labourers, $\frac{3}{4}$ d. per hour. The arbitrator has also framed a code of working rules.

Rhymney Valley.

At a meeting of the National Conciliation Board in Kingsway, London, it was decided to grant a halfpenny per hour increase all round to building trade workers in the Rhymney Valley, and, under a special clause, to grant a halfpenny per hour increase to semi-skilled workers or labourers. Mr. W. T. Lloyd, Gilfach, president of Rhymney Valley district of the Building Trades Federation, represented the workers, and Mr. T. F. Howells, Caerphilly, represented the master builders. Negotiations locally and at Bristol had failed to bring about a settlement, hence the reference to the National Conciliation Board for the Building Trades sitting in London.

TRADE AND CRAFT.

Change of Title.

We are informed that, with the consent of the Board of Trade, the name of the company formerly known as Hayward Brothers and Eckstein, Ltd., 187 to 201, Union Street, Borough, S.E., has been altered to "Haywards, Limited," by which title it should be known and addressed in future. In making this announcement the firm state: "Our Mr. Wm. Eckstein and his family are English of several generations back, and he has served many years in the Public Works Department of India, but it has been suggested by several of our principal clients that owing to the present state of public feeling in connection with the war the retention of his name in the firm may mislead some of our correspondents and cause them to imagine there is some German interest in the business. As a matter of fact, the firm is entirely a British one, founded in 1783, registered as a joint stock company in 1896, and it has no connection, directly or indirectly, with any German or Austrian interests. All the business of the company will be conducted as heretofore. Various contracts for Government work are being carried out, but enquiries and orders will be attended to with all care and promptitude."

A War Bonus.

Messrs. E. Pollard and Co., Ltd., of Clerkenwell, who are employing about 2,000 hands in London on Government contracts and the manufacture of shop fittings announce that they have arranged to give as a bonus one 5s. voucher to each employee buying scrip to the value of £3 within the next three months. The firm will accept payment in instalments of 2s. 6d. weekly if necessary.

United Kingdom Granite and Whinstone Quarrymasters' Association.

At the annual meeting of the United Kingdom Granite and Whinstone Quarrymasters' Association, which was held at York, Mr. George Bragg, of the Threlkeld Granite Company, Keswick, the president of the association, presided, and there was a representative attendance from the various districts of Scotland and England. The report of the committee for the past year, was unanimously adopted. A circular letter from the War Office was read, and those present intimated that they had given every facility for eligible men volunteering for service, and were prepared to

reinstate them on their return. The report and recommendations of the Royal Commission on Metalliferous Mines and Quarries was before the meeting, and was remitted to the committee for consideration. Several members of the association had given evidence before the commission. The question of the principle upon which quarries are assessed for income-tax purposes was brought before the meeting, and remitted to a sub-committee to consider and report on. Bragg was re-elected president for another year, and Mr. Thomas J. Robertson, Ratho, vice-president. The members of the committee were re-elected.

Business Announcement.

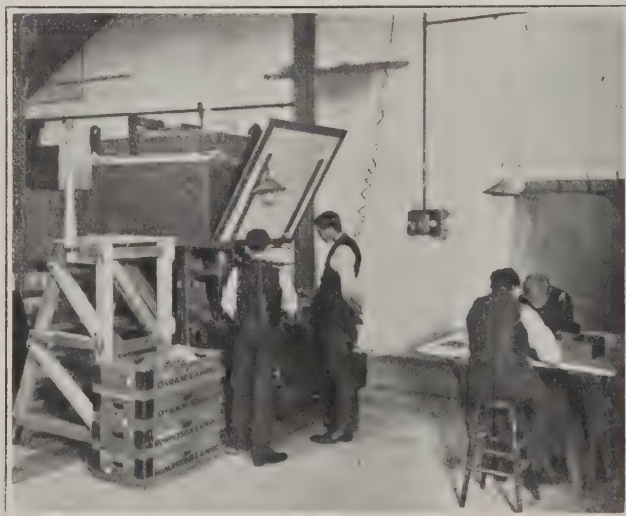
The National Radiator Company, Ltd., announce that as from June 24, 1915, all orders and correspondence for them should be addressed to "The National Radiator Company, Limited, Hull, Yorkshire Telephone, 2880 Corporation. Telegram Radiators, Hull. The firm's London showroom, where a full line of "Ideal" boilers and radiators is displayed, will be maintained at 439 and 441, Oxford Street, W. Telephone, 2153 Mayfair. Telegrams, Liableness, London.

To Prevent Current Waste.

Messrs. Herbert Terry and Son, Limited, Redditch, have forwarded for examination a sample of their patented switch monitors, in which an annular fitting exactly round the ordinary switch bears the reminder, "Please switch off when not required"—an admonition that should effect a considerable saving of current that is frequently wasted for want of some such "memory-tickler." The device is cheap, neat, and effective.

British Made Electric-Lamp Caps.

It is still believed in some quarters that the cap for the Osram and Robertson electric incandescent lamps is imported from abroad. We think it of interest therefore to give the accompanying illustration, showing a part of the cap-making plant of the Osram and Robertson companies at Hammersmith, where even the other part of the lamps is made, with the exception of the glass bulbs, which, hitherto, are made at Lemington-on-Tyne. Both companies, therefore, are entirely independent of any foreign source of supply.



LAMP-CAP MAKING AT THE OSRAM LAMP WORKS, HAMMERSMITH. LONDON.

LEGAL.

Contract: Extras. No Authority: Liability.

H. Dakin and Co. v. Lee.

1915. Court of Appeal. Before the Master of the Rolls, Lords Justices Warrington and Pickford.

This was an appeal by the defendant from a judgment of the King's Bench Divisional Court, consisting of Justices Aldley and Sankey.

In the Divisional Court Messrs. Dakin and Co., Ltd., builders, of Putney, appealed from an award by Mr. Muir Mackenzie, the Official Referee, in a claim against Mrs. K. H. Lee, of Wimbledon Park Road, under a building contract to cover £352, the balance of the price of work done in connection with repairs of the defendant's residence. Messrs. Dakin claimed in respect of work done; together with price of extra work.

Mrs. Lee said she was under no liability to pay for deviations from the contract or for work not ordered. Messrs. Dakin carried out certain repairs for the defendant, and in the course of the work found it necessary to carry out other work, for which she declined to pay. An official referee held that the defendant had been given "something other than that for which she was liable to pay," and gave judgment in her favour. Messrs. Dakin appealed to the Divisional Court, and that court reversed the decision of the referee, and gave judgment for Messrs. Dakin for £242, holding that where a contract was substantially completed those who had the benefit of the work must pay.

Mrs. Lee now appealed from that judgment.

Mr. Hume Williams, K.C., and Mr. Cassels argued the case for appellant.

The Court, without calling upon Mr. J. Tomley Eames for Messrs. Dakin, dismissed the appeal, holding that the Divisional Court had arrived at a right conclusion.

Precautions against Aircraft.

Mr. Walter J. Wheeler, an engineer, of Victoria Gardens, Notting Hill Gate, was summoned before Alderman Sir John Madeley at Guildhall, for having begun to execute certain works without giving notice to the district surveyor, and also for having cut into certain chimney stacks and flues for a purpose not sanctioned by the London Building Act, 1894. The proceedings were taken in connection with work done on the offices of the North British and Mercantile Insurance Company in Threadneedle Street for the protection of the building from attacks by hostile aircraft. The defendant said he had no idea that a building notice was necessary in such a case, and with regard to the second summons he submitted that an Act passed in 1894 could scarcely contemplate an air raid on London in 1915.

Mr. John Todd, one of the district surveyors for the City, stated that on June 16 he found that on and above the roof of the building a framework of steel joists was being erected. He complained that no notice was given and that the work was done without the consent of the London County Council. Moreover, the chimney stacks were cut into in about a dozen places for some of the steel joists to be built into them. In case of a bomb exploding on the steel wire which formed the top of the erection, the joists would probably be blown away and tons of brickwork would be hurled into the street below.

Mr. Wheeler said when he received the order for the erection of this frame, the matter was most urgent.

Mr. Todd said that in this matter of protecting City buildings from air raids great financial interests were involved which must necessarily receive the greatest consideration. He hoped that this prosecution would suffice to establish the principle that the public interests had to be considered. At the same time, he recognised that no mere technicality should prevent anyone in the City taking all reasonable precautions. He simply wished to secure notice in all cases so as to see that the work might be done as lawfully as possible in the circumstances.

The Alderman said that as far as not giving notice was concerned, the defendant had undoubtedly broken the law. A nominal fine of 5s. and costs of summons would be imposed.

On the application of Mr. Todd, only an order for the costs to be paid was made.

NEW INFECTIOUS DISEASES HOSPITAL, THORPE.

The new infectious diseases hospital at Thorpe, near Easington, which has been erected by the Easington Rural District Council, at a cost of £12,600, has been formally declared open. The foundation-stone-laying took place in April, 1914, and since then the contractors, Messrs. Christopher Brown, Ltd., of West Hartlepool, have made excellent progress, despite ten months of war. The buildings, which have been erected from the plans of Mr. Hugh T. D. Hedley, F.R.I.B.A., of Sunderland, whose designs were awarded first place after keen competition, are of the most modern description. The new hospital has taken the place of an old corrugated iron structure long out of date. The site is on land belonging to the Council, and close to that of the old hospital, and consists of about four acres of ground.

The scheme comprises an enteric pavilion, a scarlet fever pavilion, a diphtheria pavilion, and an administrative block, and there are also a laundry, lodge, mortuary, etc. Ample room is reserved for future expansion, the plans providing for two more pavilions when required.

The whole of the erections are carried out in a perfectly plain and simple style of pressed red facings and slated roofs. Internally the walls are plastered. The administrative block faces north, and the pavilions are grouped around it, facing south, south-east, and south-west. Each pavilion comprises two wards of six beds each—one for males and one for females—and two separate single wards, one for a male and one for a female patient, the total accommodation thus being for forty-two persons.

The pavilions are of one storey, and the two wards in each case are connected by corridor. There are the usual kitchens, cleaning stores, and other adjuncts. Out of each ward there is an annex—with disconnecting lobby—consisting of bath-room, lavatory, sinks, etc. There are verandahs to each pavilion, accessible by French windows. The connecting corridors have complete control of the wards, the patients being visible through glass.

The administrative block is a three-storeyed structure. On the ground floor are the matron's sitting-room and offices, medical officer's room, dispensary, nurses' dining room, servants' hall, kitchen, scullery, pantries, dry goods store, and discharge room for medical men. On the first floor are the matron's bedroom, nurses' sitting-room, eight nurses' bedrooms, bathrooms, and on the second floor five bedrooms and bathroom.

COMPETITIONS.

Stepney Municipal Buildings.

In the article on the Stepney Municipal Buildings Competition, printed in our issue of July 7, there is a reference (p. 9, 1st col.) to "No. 108, by Messrs. Sullivan and Jemmett," as "a splendid plan on French lines." The names of the authors of this design should have been given as Messrs. Jemmett, Sullivan, and Bucknell.

Lay-out of Public Park, Dublin.

The Cleansing Committee of the Dublin Corporation invite designs from landscape designers, etc., resident in Ireland for laying out the reclaimed ground at Fairview, Dublin, and for the conversion of same into a public park. Premiums, £50, £10, and £5. Particulars from the Secretary, Cleansing Committee, Dublin Corporation, Lord Edward Street, Dublin.

Birkenhead Borough Hospital Extensions.

In giving the list of tenders for this work (p. x., in our issue of June 23), it should have been mentioned that the architects are Messrs. Edmund Kirby and Sons, of 5, Cook Street, Liverpool.

WASHING ACCOMMODATION FOR WORKSHOPS AND INSTITUTIONS.

A very useful washing appliance, by means of which considerable economies may be effected in workshops, factories, etc., or, indeed, in any places in which washing accommodation is provided for a number of people, is the "K. and W." liquid soap fountain, which gives automatically a constant supply of an anti-septic liquid soap, both pleasant in use and efficacious in action. The fountain is constructed of porcelain on the well-known principle of the glass bird-fountain. It consists of a one-piece earthenware container, with a lip in front which holds just sufficient soap for one application, and refills automatically to the correct level. It cannot possibly get out of order, and the only attention it requires is refilling when empty—usually about once a week or fortnight. With the "K. and W." Fountain, which is sold by the "K. and W." Soap Fountain Co., of 8, Bream's Buildings, London, E.C., there is none of the wastage which occurs with ordinary soap, which is often "missing" or is wasted by being left in the water. For the soap fountain, therefore, it is claimed that it effects a great saving in use. The initial cost is small, and one large firm who have been using the "K. and W." Fountain for some considerable time report a reduction in their soap bill of over 60 per cent. This firm report upon the installation: "Previously we had the greatest difficulty in keeping soap on the wash-benches; now, the soap is always there, because it cannot be taken away; and it is practically impossible to waste it." In foundries and works where the Home Office requirements necessitate a constant supply of soap, and where, despite most careful supervision, cakes of soap are apt to be missing when the factory inspector calls, the soap fountain overcomes a serious difficulty, as the manager of a large brassfoundry acknowledges in the following passage: "A short time ago we had a special visit to our brass foundry from the Home Office, and the official appointed commented particularly on the soap fountain, saying that in his opinion it was the most efficient arrangement of the kind he had seen." Architects will be glad to know of this appliance.

R.I.B.A. BOARD OF ARCHITECTURAL EDUCATION.

The following are the problems in design set by the Board for Subjects XXII., XXIII., and XXIV. :—

THE FINAL: ALTERNATIVE PROBLEMS IN DESIGN.

Instructions to Candidates.

1. The drawings, which should preferably be on uniform sheets of paper of not less than Imperial size, must be sent to the Secretary of the Board of Architectural Education, Royal Institute of British Architects, 9, Conduit Street, W., on or before the dates specified below.

2. Each set of drawings must be signed by the author, and his full name and address, and the name of the school, if any, in which the drawings have been prepared, must be attached thereto.

3. All designs, whether done in a school or not, must be accompanied by a declaration from the student that the design is his own work, and that the drawings have been wholly executed by him. In the preparation of the design the student may profit by advice.

4. Drawings for subjects (a) are to have the shadows projected at an angle of 45 deg. in line, monochrome, or colour. Drawings in subjects (b) are to be finished as working drawings. Lettering on all drawings must be of a clear, scholarly, and unaffected character.

Subject XXII.

(a) The entrance facade to a Tube railway station in a main thoroughfare. The total width of the facade available for both approaches and exits to be 40 ft. The upper part is to be let off as offices with separate entrance and staircase.

Drawings.—A plan to $\frac{1}{16}$ -in. scale, showing the arrangement of booking-offices, etc., and an elevation and section of the facade to $\frac{1}{2}$ -in. scale.

(b) A co-operative stores in a small village of 300 inhabitants, to be managed by a resident salesman. The shop, to be built on the south side of the village street, should be portioned off into groceries, provisions, and drapery—the latter with a top light. There should be considerable store-room accommodation in connection. The salesman to have a living-room, kitchen and usual offices, three bedrooms and bathroom.

Materials.—Brick and tiles, with rough-cast, if desired.

Site.—A corner site with chief frontage 54 ft. to main road, and a small lane at the side.

Drawings.—Plans of each floor, one section and two elevations, with one detail, $\frac{1}{2}$ -in. scale, of portion of front elevation.

Subject XXIII.

(a) A school chapel to accommodate 250, of whom 150 are boys. Gallery at west end for organ and choir. Vestry for clergy and choir. Entrance porch, or narthex, with way up to gallery. Screen under gallery shutting off entrance from chapel.

Drawings.—Plan and two elevations to $\frac{1}{2}$ -in. scale, cross section and one bay longitudinal section to $\frac{1}{2}$ -in. scale.

(b) A doctor's house (detached), to be built in stone on a corner site, say 80 ft. by 200 ft., in the main road of a provincial town, such as Stamford.

Accommodation.—Separate entrance for patients; consulting and waiting rooms near the kitchen part of the house. Front and back stairs. Good drawing-room and dining-room, five ordinary bedrooms, with one dressing and two bathrooms, and usual offices; one bedroom for a resident patient

with bathroom adjoining, and small bedroom for nurse. A study or morning-room is optional. The house is to be set back from the road on both frontages. A small garage without living accommodation is desired.

Drawings.— $\frac{1}{2}$ -in. plans and two elevations and one section and a small block plan.

Subject XXIV.

(a) The accompanying plan shows a large house built in 1810, standing 110 ft. back from a main road now much used by motor traffic. The owner is greatly inconvenienced by noise and dust, and desires to enclose his forecourt in order to shut off these nuisances as far as possible. He has need of a studio for wood and metal work, an orangery for winter storage of shrubs, a loggia overlooking the garden, and a garage. A turning circle 70 ft. in diameter must be allowed for motor-cars. Show how his requirements may be best attained. The site falls 3 ft. towards the south.

Drawings.—Plan, elevations and sections $\frac{1}{2}$ -in. 1 ft. Details, $\frac{1}{2}$ in.-1 ft.

(b) A group of residential flats standing on an open site arranged round a quadrangle which is 150 ft. square. The buildings to be in two storeys, and the flats generally to contain living-room, small kitchen and larder, two or three bedrooms, water-closet and bathroom. There is to be an arrangement of a central dining-room and kitchen, etc., with accommodation for servants to attend to this department and also to give a limited amount of service in the flats.

Drawings.—Plans, elevation and section to $\frac{1}{16}$ -in. scale, and $\frac{1}{2}$ -in. detail of main entrance to quadrangle.

Dates for Submission of Designs in 1915-1916.

	Subject XXII.	Subject XXIII.	Subject XXIV.
United Kingdom ...	31st Aug.	31st Oct.	31st Dec.
Johannesburg	31st Oct.	31st Dec.	28th Feb.
Melbourne	30th Nov.	31st Jan.	31st Mar.
Sydney	30th Nov.	31st Jan.	31st Mar.
Toronto	30th Sept.	30th Nov.	31st Jan.

A TREATISE ON HAND-LETTERING.

It is stated in the preface to this book that "up to the present it has been difficult to obtain good practical knowledge on hand lettering in any country, and nothing, so far as I am aware, has been produced in the British Empire excepting cheap exercise books for students, containing very insufficient instruction for the actual needs of drawing offices." This rather sweeping statement does some injustice to excellent books on the subject that have been published by the late Mr. Lewis F. Day, by Mr. E. F. Strange, and others in this country, and to a good portfolio prepared, if we remember rightly, by an instructor at the Camberwell School of Arts and Crafts. It may be admitted, however, that the books by Mr. Day and Mr. Strange were mainly historical in character, and that the Camberwell portfolio, although more directly practical, was of rather limited scope.

Mr. Lineham has aimed at sheer practicality. He shows no lettering that is not in general use, he gives carefully detailed instructions for producing it, and, in his anxiety to meet all requirements he includes examples that are good, bad, and indifferent, as well as a few that, without flattery, are frightful. These last, of course, he does not commend; but we could have wished that he had passed them over rather than passed them on. For his specimens of "lettering used by architects" we do not greatly care. Current practice shows much better examples, from

which a really useful selection could have been made. Of most of the "lettering for architects" shown in the book, we can only say that we sincerely hope it will not be imitated. Nevertheless, the utility of the book is unquestionable, more especially for engineers, who will find in it every variety of block-letter, as well as every kind of Roman and italic, with full instructions for producing them. To follow these instructions, which strike us as being thoroughly practical, would be to acquire in a very short time, the skill of hand, the easy assurance of stroke, that is the first essential to success in lettering; and Mr. Lineham has certainly produced a book for which all students of lettering will be grateful for at least its practical utility.

A Treatise on Hand Lettering for Engineers, Architects, Surveyors, and Students of Mechanical Drawing By Wilfrid J. Lineham, B.Sc., M.Inst. C.E., etc. Pages xii + 282, 8½ in. by 12½ in., price 7s. 6d. net. London: Chapman and Hall, Ltd.

EAST INDIA DOCKS IMPROVEMENTS.

The Port of London Authority are now completing a great improvement scheme at the East India Docks. Situated only three miles from the City, these docks have hitherto been ill-adapted to the needs of cargo steamers. Works have now been carried out which render them immediately available for vessels of large dimensions and of deep draught, while at the same time, by the erection of a series of large sheds, the storage and transport abilities of the Port of London will receive the substantial and valuable addition of eight berths for ocean-going ships. Unless unforeseen demands are made upon the Port (says the "Westminster Gazette"), it will now be possible to avoid the tendency to congestion.

One of the principal objects of the scheme, which has taken about three years to complete, has been the modernising of the Import Dock, an enclosed water area of some seventeen acres, which was opened in 1806 for East Indiamen. Admission to this was formerly restricted by the fact that the lock from the East India Dock Basin was shallow, narrow, and of old-fashioned shape. It was decided to demolish this lock, and to substitute for it one eighty feet wide, and having thirty-one feet of water on the sill.

The new lock is 300 ft. long, as compared with 209 feet in the case of its predecessor. But as a uniform depth of water can be secured in basin, lock, and import dock, vessels up to 500 feet in length will be able to pass through. The swing-bridge over the lock is of a novel character, so far as the Docks of London are concerned. The bridge is of what is known as the "end lift" type. The quays of the import dock have been largely transformed. Its north and east quays have been widened by 20 ft. in reinforced concrete, offering an available berthage of 1,850 ft., with travelling cranes and other necessary equipment, and an available depth of water alongside of 28 ft. On the north quay have been erected three single-story transit sheds of steel and galvanised iron, each covering an area of about an acre. The dimensions of each are 410 ft. by 110 ft. On the east quay there has been built a double-story shed of ferro-concrete which is 420 ft. by 53 ft. The accommodation on the south quay was greatly improved a few years ago. By the erection of powerful electric pumping plant provision has been made for impounding the water in this system of docks to the extent of an additional 2 ft., so that the total depth throughout will be 28 ft.

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(From Piranesi.)

THE ARCHITECTS' & BUILDERS' JOURNAL.

JULY 21, 1915.

TOTHILL STREET, WESTMINSTER.

VOLUME 42. No. 1072.

EDITORIAL.

WE the more willingly comply with the request of the Society of Architects to publish the correspondence that has taken place between that body and the Board of Agriculture and Fisheries, relating to the report of the Advisory Committee on Rural Cottages, because it was in this Journal that attention was first directed to certain objectionable features of the report. In our issue of March 31, we protested against the encouragement given to "public bodies, societies, and persons interested in rural housing," to eliminate the architect. Working drawings were offered at as low a price as a shilling a sheet, and specifications at a penny—all, no doubt, with the best object in the world, yet with insufficient consideration of architectural interests, professional and æsthetic.

From the reply to the Society's letter, it is made quite clear that the elimination of the architect was no mere accident, but was deliberate and intentional. In considering the point, the committee were daunted by the truly formidable difficulty that surveyors and estate agents claim the work! Mere mention of the word "architect" might have hurt their feelings. It does appear at least once, however, in the sample specification, in which it is required that the whole of the works are to be carried out "under the direction and to the satisfaction of the architect or employer's agent," and it seems to be argued that something resembling an architect is seen as through a glass darkly in certain observations in the report—as where stress is laid on the need for care and taste in adapting the designs to local requirements, on the need for careful planning, and on the importance of a careful lay-out to prevent the building of incongruous houses in unsuitable positions.

It is odd that the writer of this reply to the Society's complaint should labour so hard to convince us that some sort of a skilled supervisor was assumed. Admirably ingenious is the argument that, only a small proportion of the cottages now built being designed or supervised by any professional expert, the committee's report, by exhibiting the difficulties of the problem, will induce more owners and authorities to take skilled advice than to dispense with it. Possibly the shilling working drawings and the penny specifications are meant to further the same wise object, and therefore architects (or skilled supervisors) ought to be grateful for them. Probably the "skilled supervisors" (other than architects) will be. Apparently the architects do not matter, as "only a limited number of them have given as much attention to this class of work as have many members of the other professions mentioned." In plain English, the architect's function has been usurped, and the Advisory Committee have countenanced the usurpation, which they seem to accept and

condone as natural and inevitable. Indeed, their tone seems to suggest a feeling of pain at the Society's protest; which, however, is a model of mild and moderate statement.

In stating that "they do not feel that it is their function to determine that none but architects" are qualified to do the work, the Committee supply an ironical commentary on their sedulous dry-nursing of the other denominations of "skilled supervisors," and their reply to the Society's protest merely accentuates the mischief. That is the point of the controversy. A bad—a scandalously bad—tradition of rural housing has been allowed to acquire so much force and influence that the Advisory Committee has been obsessed by it. Rural cottages having been built anyhow and by anybody, with cheapness as the chief aim, it became necessary to appoint a committee to make recommendations for betterment, and that committee has done well in collecting useful information, but has done ill in fostering, indirectly and by implication, the common notion that the building of rural cottages is no concern of the architect's. Yet, inconsistently enough, the committee supply (at very cheap rates) designs by architects for the guidance of "surveyors and estate agents," who are declared to have given more attention to this class of work than most architects have, and who therefore enjoy, the Advisory Committee would wish us to infer, a prescriptive claim to it, and deserve every encouragement to persevere in it!

Now, if this were a mere matter of pecuniary loss and gain, it would be negligible, and almost beneath notice. But certain principles are involved. Is it not preposterous that persons other than architects should have been allowed to establish a prescriptive claim to what is clearly architects' work? Not only is it unfair to architects, but that it does not promote architecture nor hygienics, nor anything that is good, has been made painfully evident by the necessity for appointing this committee, and has become still more strongly apparent from the straits to which the committee is reduced—its acquiescence in the elimination of the architect, its bolstering-up of the estate agent, odd-job man, or any other substitute that exigency may urge, and, lastly, the rather curious essay in casuistry which the protest of the Society of Architects has evoked.

On this day week, July 28, the half-yearly general meeting of the National Federation of Building Trade Employers of Great Britain and Ireland will be held under the presidency of Mr. A. W. Sinclair, at the Masonic Hall, Great George Street, Leeds, where, on the preceding day, the usual meetings of the Administrative Committee and the Executive Council will be held. The chief subjects on the agenda are the

ennial apprenticeship problem, the equally hardy
 estion of contract conditions with local authorities;
 d resolutions of the National Board of Conciliation,
 commending, respectively, consideration of the con-
 ditions created by the war, and the admission of
 ilders' labourers and of the Electrical Trades Union
 membership of the Conciliation Board. A proposed
 tional scheme for demarcation committees will also
 discussed.

An excess of the virtue of economy is for the moment
 e dominating note in national affairs; and an excess
 virtue is akin to vice. In the House of Commons
 t Thursday the rampant economists exercised their
 eeseparating talents on the Mall Improvement
 heme. On a vote of £32,000 for the improvement
 the approach to the Mall, one member expressed the
 w that it would be most undesirable to expend
 oney on this work at present, and another moved
 e reduction of the vote by £7,000. Although the
 te was agreed to, there seems to be but little likeli-
 od that any work is to be put in hand; and the
 overnment assurance "that no unnecessary work of
 y kind was being carried on in connection with this
 heme" was not surprising. It would appear, indeed,
 at the sum voted was merely the Government's share
 Westminster City Council and the London County
 ouncil being responsible for the other two-thirds) of
 £70,000 to be paid to the Phoenix Insurance Com-
 ny for the acquisition of their premises. This assur-
 ce should gratify those ultra-economists who seem
 cious to suppress all civil activity, and whose amiable
 ilt is that they are greatly overshooting the mark.

To acquire is not to demolish; and it is more than
 ightful whether the vote includes provision for pulling
 wn the premises of the Phoenix Insurance Company.
 e may therefore have to endure for a long time to
 e the present hideous unsightliness of the Mall
 roach. Not that the Phoenix building is hideous
 e; far from it. There is no building of the group
 t could not better be spared. But, while not unhand-
 ne, it is in the last degree obstructive; and if the
 miralty arch, which it so flagrantly obscures, had
 ablished any strong claim to admiration, the jumble
 buildings now huddled in front of it would melt
 ay under its influence; and as it is they clamour for
 arance, their continued existence being an æsthetic
 ndal that, we will undertake to say, is a matchless
 mple of muddle and ineptitude.

With reference to some observations we made last
 ek on the proposed revision of the R.I.B.A. regula-
 ns for competitions, we have received from the
 retary of the Institute (whose letter appears in the
 espondence columns of the present issue) a very
 come assurance that of late the Council, having
 nghtened their powers in this direction, have not
 itated to give them full effect as occasion seemed to
 uire. Reference is also made to the resolution on
 essional conduct, etc., in which it is expressly laid
 wn: "That any Member or Licentiate of the Royal
 titute who takes part in any competition as to which
 Council shall have declared by a resolution pub-
 ed in the Journal of the Royal Institute that Mem-
 s or Licentiates shall not take part because the
 ditions are not in accordance with the published
 ulations of the Royal Institute for architectural
 etitions, shall be deemed to be guilty of unpro-
 essional conduct, and to become liable to reprimand,
 ension, or expulsion." That the third and most
 stic of these penalties is the one that is now the
 st likely to be incurred in any case that is of
 ucient importance to be brought before the Council
 point that we are glad to make clear on such excel-
 authority, but we still think it rather a pity that
 opportunity was missed of revising the competition

regulations in accordance with the greater severity of
 discipline that has gained the ascendancy.

Complaints are numerous that picture theatres are
 commonly less well ventilated than they should be, and
 in Leith actual tests have shown that these complaints
 are not merely fanciful. There are, of course, those
 who contend that impurities in the air do not matter so
 much as stagnation, or that "the ventilating and heat-
 ing engineers primarily should aim at giving us air
 which is cool, of proper relative humidity, and which
 moves so as to vary the cutaneous state of the body";
 but as impurity of interior atmosphere usually implies
 stagnation, there is here some danger of confusion
 of thought. At all events, to an atmosphere that is
 known to be laden with disease germs the cleverest
 theorising cannot reconcile us; and the condition of a
 ill-ventilated picture theatre is peculiarly dangerous to
 health because such places are much frequented by
 children, who are greatly more apt than adults to
 convey and contract disease. Some schools, it has
 been said, are hot-beds and culture-grounds of all the
 diseases of childhood, and in this respect some of the
 picture-theatres are probably very much worse, seeing
 that they get less sunshine and less supervision. It
 follows, therefore, that their efficient ventilation is a
 point of considerable importance to the community,
 and that the example of Leith in paying special atten-
 tion to it is likely to be generally followed.

The London County Council regulations for the
 control of reinforced-concrete construction within the
 metropolitan area now await only the approval of the
 Local Government Board to become operative. It is
 just possible, however, that, before being finally passed,
 the regulations may see further alterations. It is for
 this reason that, for the moment we prefer not to repro-
 duce them in their present form, more especially since
 we published them in full some time ago, when they
 had reached their most interesting stage. It will be
 remembered that at the same time we published certain
 suggestions for revision, most of which, we understand,
 have been adopted. We hope to offer, in our next
 issue, some further criticisms, some of which appear to
 us to be of rather serious importance—as, for instance,
 those dealing with the regulations for columns; our
 information being that the requirements in this respect
 are so excessive as to offer a serious obstacle to their
 adoption. Some relatively minor details also require
 attention and rectification, and of these both the
 Council and the Local Government Board will no
 doubt be glad to receive early intimation.

There has just died, at Painswick, in Gloucestershire,
 at the age of eighty, Mr. James Tait, who was not only
 the oldest member of the Leicester and Leicestershire
 Society of Architects, but had the further distinction of
 being "a descendant of the famous Adam family"—
 meaning, of course, the family of architects, and not
 "the grand old gardener and his wife," who "smile at
 the claims of long descent." This honour, however,
 Mr. James Tait did not transmit, as he died a bachelor.
 Although he did not build in the monumental manner
 of his distinguished forebears of the Adelphi (who were
 presumably "on the distaff side"), he did some excel-
 lent domestic work, and designed a number of comely
 churches and chapels for various denominations. Of
 course he did not exactly "link up" with the brothers
 Adam, of whom the last survivor, William, died in 1822,
 whereas Mr. Tait was not born until more than a
 decade later. Still, it is rather startling to find that
 an architect living well on into the twentieth century
 carries us back, with but a slight gap of years, to the
 brave days of the brothers Adam, who stand for so
 much of the distinctive architecture of the eighteenth.

HERE AND THERE.

A LETTER with reference to the rebuilding of Belgium and the departments of France ruined in the War has been received at this office from an architectural firm in Paris, and has been handed over to me to deal with. Readers may rely on what follows, as I have before me the original letter with its enclosure. Ostensibly it emanates from two gentlemen who are French to the core, but they rejoice, unfortunately, in the names of Kirchmann and Stel, names that are not distinctively Parisian. What if I were a German, would be my impressions just now of a fellow patriot who was doing business under the name of McNab? Surely Berlin would cry "Gott strafe McNab," with imprisonment, and a heavy fine to follow. However, to proceed. Composition in a foreign language is a testy undertaking, so we must not be too critical of the English in the letter which the Editor has received, though, by reason of its peculiar use of words, it is refreshingly novel. The letter runs as follows: "Dear Sir,—In the purpose of solidarity and also to procure works at our allies, we demand you to have the kindness to transmit at your numerous lecturers and subscribers the inclosed advice. Is it possible for you to give us some addresses of special revues and news papers concerning only the builders and master builders. Hoping that you will soon give us answer and order at our demand, we are whit thanks, Yours trulies, A. Kirchmann and A. Stel, Architects Experts." Now the enclosure:—

Advice.

"The undersigned architects experts near the Councils of the Prefectures, have the favour to bring at the notice of master builders and building Societies, how desires to participate in France and Belgian on the rebuilding of the immovables, habitations, manufactories, and all other buildings, destroyed during the War, to take inscription at the agency of Mrs. A. Kirchmann and A. Stel architects in Paris No. 11 bis Rue Hegesippe Moreau XVIII. They are called by their relations to edify and conduct many establishments demolished and destroyed. They will found in many Cities as Lille, Roubaix, Reims, Arras and especially in the department of les Ardennes agencies like those how operate already at Senlis."

I like not that word "undersigned." It reminds me too strongly of the All-Highest's "unterseeboten" and his Unter den Linden. This Paris firm of architects who are so keen on getting the business which "the rebuilding of the immovables" will involve may without doubt be called upon to "edify" many "establishments," but I am informed that their names are not to be found in the lists of the French architectural societies. I shall not "take inscription" at their address.

In the days before the War we had our regular supply of architectural and building journals from the Continent, but all is sadly changed now. The German papers come no more to hand; no longer can we see the latest Greco-Hun phase of Kaiserism in architecture; and as for the French papers, they have all but faded away; yet a flicker of their former selves still persists, "La Construction Moderne" with four pages, and "Le Batiment" very limp as a single sheet. And in the former I have come across an interesting note on what has happened to the students of the Ecole. There is, at the end of a cloister walk at the great school, a monument by Pascal to Henri Regnault and to students killed in the War of 1870-71. Fourteen names are there inscribed, eight of them of architects who died on the field. A brave little band, but how small is the number in comparison with the total to-day. In this present conflict no fewer than 4,000 past and present students of the Ecole have been mobilised, and many of them have already been killed and wounded. Ameri-

cans in Paris, with Mr. Whitney Warren at their head, have been doing Samaritan work for those who have gone to the War. Already they have collected 20,000f. for sending parcels to students at the depots in hospitals, or in prisoners' camps in Germany, and at the same time they are looking after dependents and friends left behind. From one of the hospitals a student writes (if I can make a free translation of his letter): "I have eight wounds in the body, and a serious one in the head. I have undergone three surgical operations. But the doctors say that in three months I shall be about again, and not entirely dotty. So I shall not be entirely useless at the Ecole. I shall still be ready for some more rot." A cheery spirit that, with a tender memory for the freakish humour of the School.

* * * *

Evidently in America the same sort of trouble sometimes occurs in connection with work executed to the architect's design as we are familiar with in this country. Readers therefore should take note of a specification which was drawn up by a leading New York architect, and presented at a recent Sketch Club dinner. The principal clauses are so much to the satisfaction of the profession that I venture to give them here in a condensed form: (1) The drawings and specification are to be taken together. Anything shown on the drawings and not mentioned in the specification, and anything mentioned in the specification and not shown on the drawings, shall be considered as both shown and specified, and anything wanted by the architect, his friends, or anybody else (except the firm doing the work) shall be considered as shown, specified and required. (2) If, in the architect's judgment, any changes are made that the architect says cost less or the contractor says cost more, the difference shall be deducted from the amount of the contract price by the architect, whose decision thereon shall be final. (3) The drawings are to be considered diagrammatic. Anything that is right on the drawings is to be considered right; anything that is wrong on the drawing shall be discovered by the contractor and shall be put right without any talk or discussion on the part of the contractor, and without any reference to the owner and without any showing on the account. (4) Anything that is forgotten or omitted from the drawing and specification, but which is necessary and required for the comfort, convenience, and satisfaction of the owner and the architect, shall be provided by the contractor to the satisfaction of everybody (except the contractor). (5) The drawings are the property of the architect and must be returned to him whenever required. The contract drawings, however, being diagrammatic, will be fully amplified by the details which will be furnished as soon as the architect can get round to it. (6) All materials shall be the best of the several kinds. The contractor is expected to know and provide the best, irrespective of what is specified. The architect reserves the right to change his mind about what is best. Any changes necessary to make the work and material what the architect fancies, shall be made by the contractor without extra cost. (7) The contractor shall guarantee, and hereby does guarantee that he will keep in complete working order anything that the architect asks him to attend to, so long as there is more work in sight in the architect's office. (8) In the case of any dispute arising as to the nature, character, or extent of work shown, specified, implied, thought of, the matter will be decided by referendum and recall, after which the decision may be set aside and reversed by the architect, whose decision is hereby admitted to be just. (9) Payments, if any, shall be made on the architect's certificates, which shall not be considered negotiable, nor are they legal tender: when once issued, the architect assumes no further responsibility for their further usefulness. Final payment, any, shall be made when everybody is satisfied except the contractor.

UBIQUE



Photo : Stewart Bale, Liverpool.

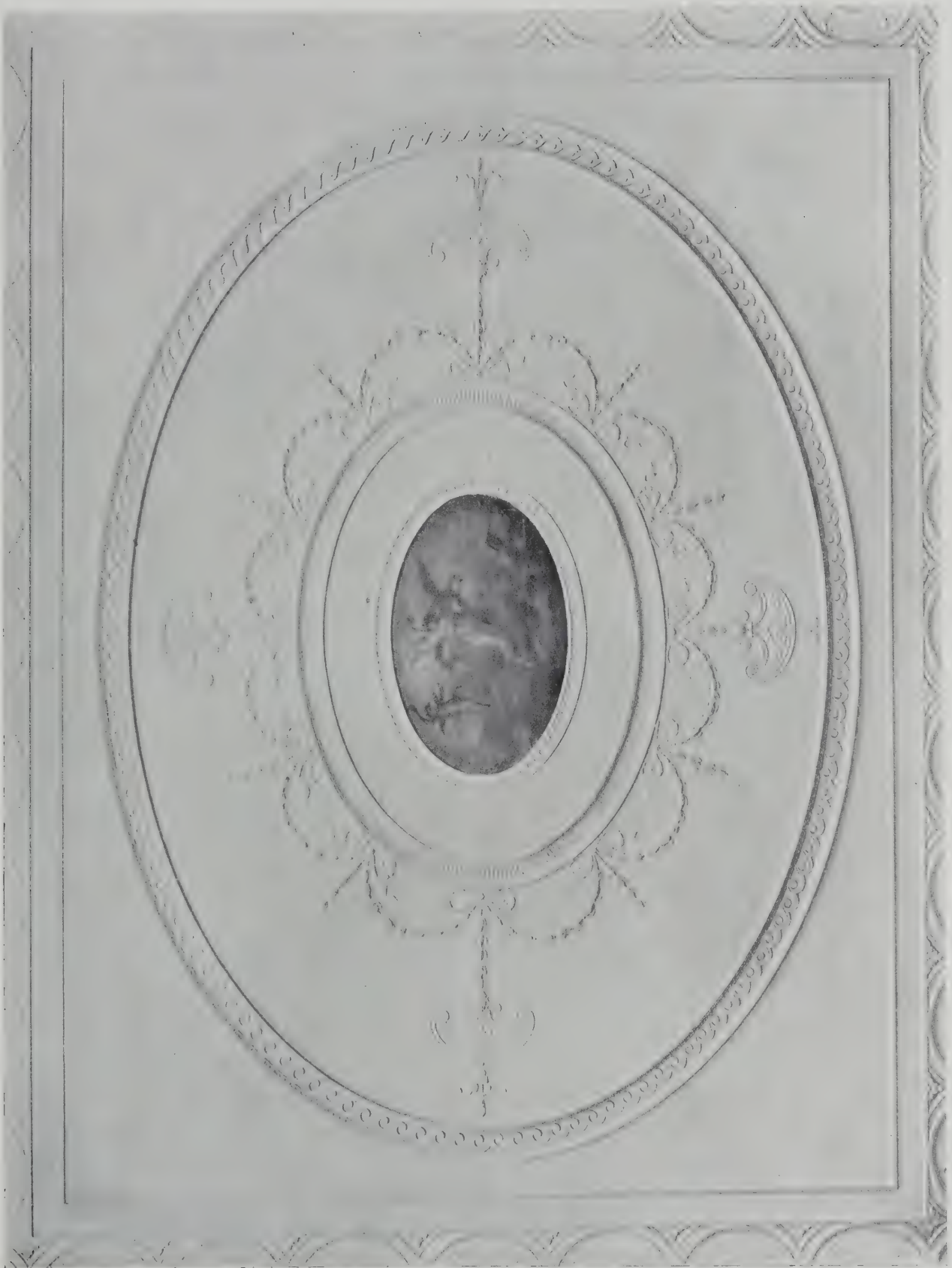
MODERN DOMESTIC ARCHITECTURE (SERIES II.). XVIII.—NEW ENTRANCE PORCH,
31, RODNEY STREET, LIVERPOOL.

FRANK RIMMINGTON, LICENTIATE R.I.B.A., ARCHITECT.



CURRENT ARCHITECTURE (SERIES II.). XXXVII.—SKETCH DESIGN FOR CORNER TREATMENT OF A PUBLIC BUILDING.

W. J. ROBERTS, M.A., A.R.I.B.A., ARCHITECT.

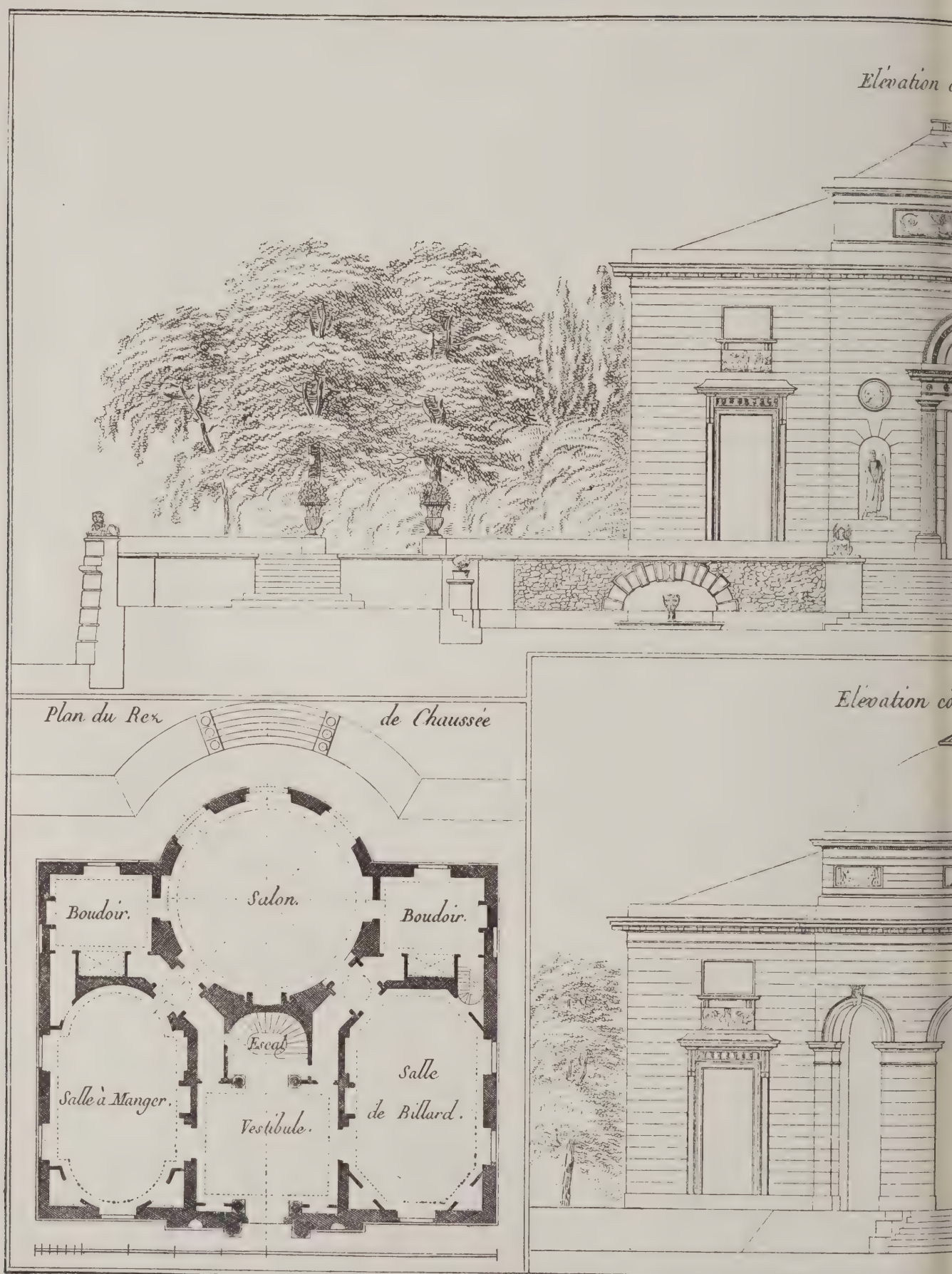


DETAILS OF CRAFTSMANSHIP. XXVII.—CEILING, 3, ADELPHI TERRACE, LONDON.
ROBERT ADAM, ARCHITECT.

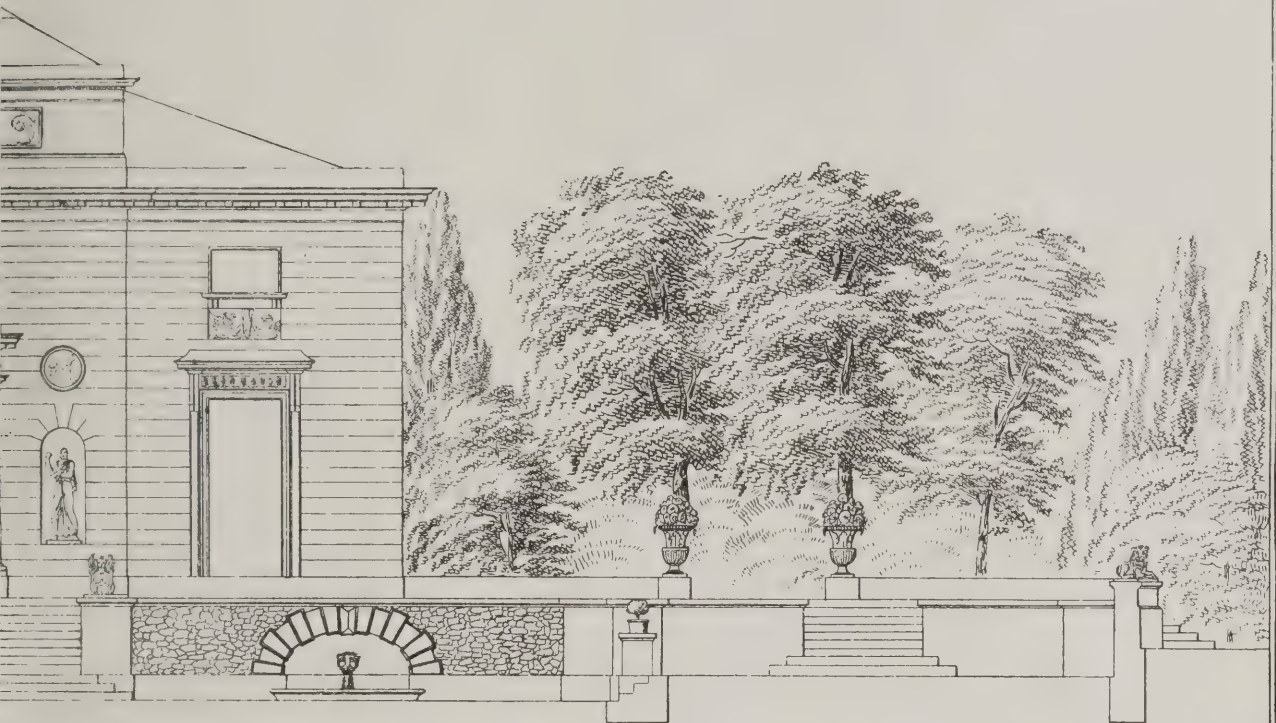
MANCHESTER OLD TOWN HALL. VI.—MOULDINGS AND ENRICHMENTS TO FRONT ELEVATION.

MEASURED AND DRAWN BY GORDON HEMM.

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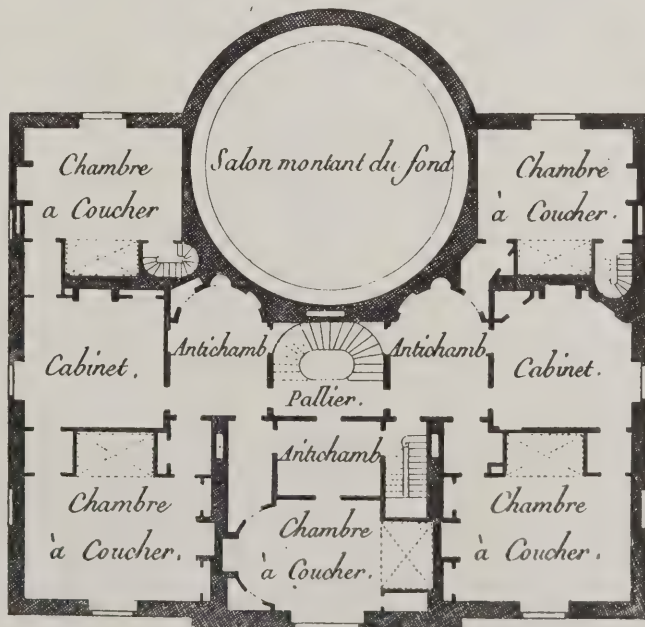
Cour



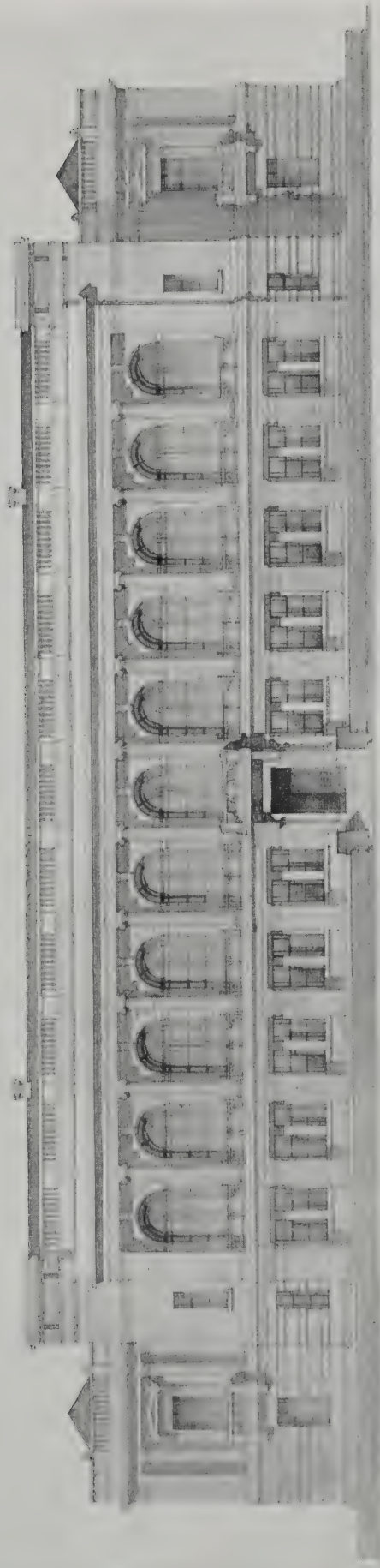
Jardin.



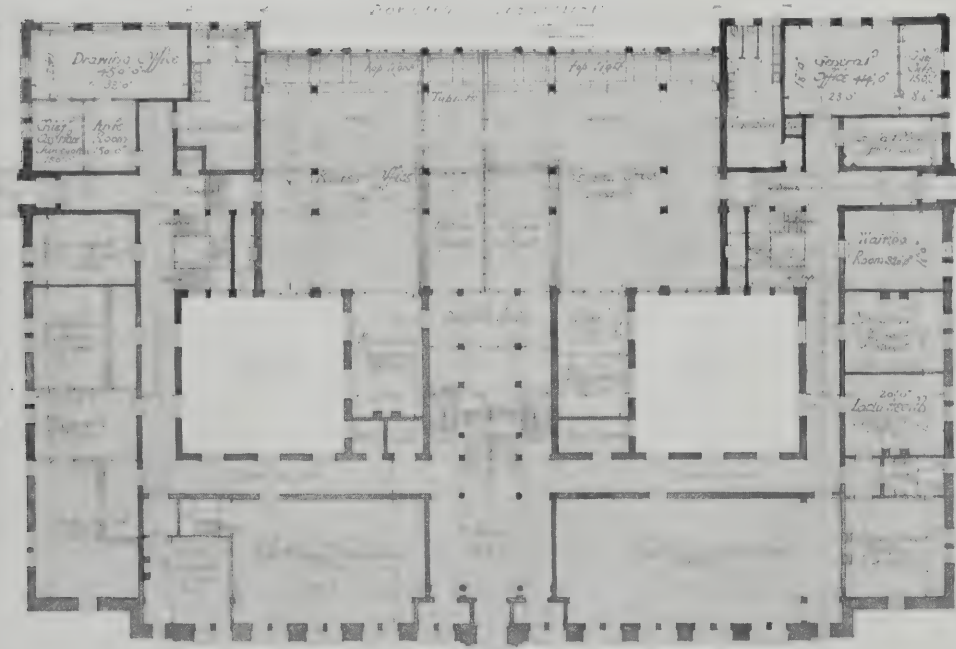
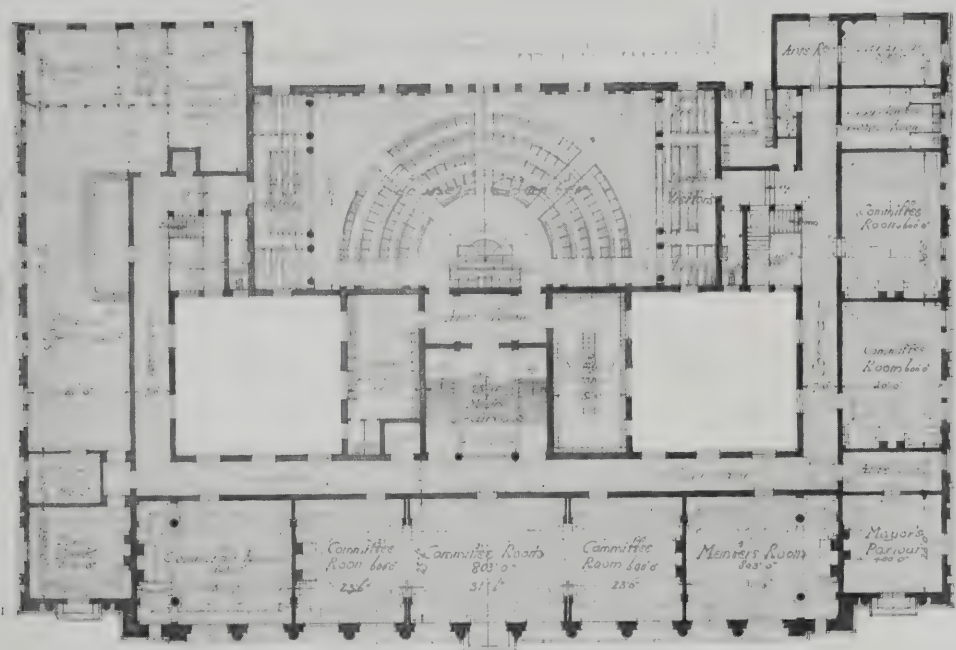
Plan du Premier Etage.



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CURRENT ARCHITECTURE (SERIES II.). XXXV.—DESIGN FOR NEW MUNICIPAL BUILDINGS, STEPNEY, LONDON, E.
H. S. GOODHART-RENDEL AND A. G. SHOOSMITH, JOINT ARCHITECTS.



CURRENT ARCHITECTURE (SERIES II.). XXXVI.—DESIGN FOR NEW MUNICIPAL BUILDINGS, STEPNEY, LONDON, E.

H. S. GOODHART-RENDEL AND A. G. SHOOSMITH, JOINT ARCHITECTS.

THE PLATES.

Doorway in Rodney Street, Liverpool.

HIS carries on the spirit of late eighteenth century architecture, of which Liverpool still preserves some good examples. It is a very elegant piece of work, the treatment around the door being especially happy.

Sketch Design for Corner Treatment of a Public Building.

The design represents an attempt to treat the corner of a city building in a monumental way, in stone, at the same time allowing for the exigencies of light necessary to a large block of offices. The general mass of the building is of Renaissance character, the Order defining the main "motif" being an adaptation of the Greek Doric.

Ceiling, 3, Adelphi Terrace, London.

Many of the houses in the Adelphi by the Brothers Adam have elaborate ceilings to the rooms on the ground and first floors. The ceiling now shown is a very restrained example, full of charm, the delicate plasterwork having an admirable focus of interest in the oval painting by Angelica Kauffmann.

Buildings and Enrichments, Manchester Old Town Hall.

These, with others in the series, should prove of much interest and service in connection with the detailing of modern buildings in the Classical style.

La Bagatelle, Paris.

This delightful little building was the outcome of the Comte d'Artois's bet with Marie Antoinette, that he could rebuild the château of the Duc d'Estrées and create an Anglo-Chinese garden so as to be ready to receive her on her return from Choisy in two months' time. Belanger was the architect of the house, and an Englishman named Blaikie was imported to help him in the lay-out of the garden. Everything had to be done very quickly. In forty-eight hours Belanger made his design and put it in the builder's hands, and the work proceeded rapidly enough for the Count to win his bet of 100,000 francs, though, as a fact, the bagatelle cost him 1,200,000 francs. A plate from the draft showing the interior will appear in a later issue.

Design for Stepney Municipal Buildings.

In preparing this design the authors (Messrs. H. S. Goodhart-Rendel and A. G. Shoosmith) felt that primarily the council chamber, and, secondarily, the committee and reception rooms, should be the main influences determining the form of the plan and section. From the main entrance a single straight flight of steps, providing an effective vista, leads to the council chamber, which is at a level slightly below that of the first floor. This arrangement has practical as well as æsthetic advantages; it enables the council chamber to be pushed back farther on the site without infringing the rights of light of the existing buildings to the rear; and it makes possible the entrance at first-floor level to the galleries for public, distinguished visitors, and Press. From the council chamber landing short turn flights lead to the reception rooms, which occupy the entire front, the principal suite of committee rooms being in the centre. The mayor's parlour and town clerk's private office have important positions at the angles of the building. A uniform Order throughout the first floor ensures a proper relationship between the various rooms. In considering the exterior it was felt that no more breaks or projections were desirable than those necessary to give due emphasis to the various units of the plan; also that a large Order embracing two storeys would be out of scale with the other buildings of the neighbourhood. The main sequence of rooms on the first floor is emphasised by an

unbroken row of Ionic columns, flanked at either end by a tall pylon; the centre of the building being only marked by the main entrance door with a stone balcony above it, echoed by similar smaller balconies to the mayor's parlour and town clerk's office at the ends of the composition.

CORRESPONDENCE.

R.I.B.A. Competition Regulations.

To the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.

SIRS,—Your editorial note on page 12 of the current number (July 14) of THE ARCHITECTS' AND BUILDERS' JOURNAL is in some respects inaccurate, and I should be very glad if you would take an early opportunity of reverting to the subject and conveying to your readers more precisely the facts as to the attitude of the R.I.B.A. Council towards breaches of its Competition Regulations.

Your statement that the "existing prohibition" is a "mere pious opinion," and that "full advantage is taken of the laxity of the wording," would perhaps have been accurate some years ago. In recent years the Council have strengthened their powers in this direction, and by the new resolution on page 70 of the Kalendar, by the forms of declaration (pages 61 and 62), and by the provisions of By-law 24 (page 46), they have complete power to suspend or expel members who violate the regulations.

Since these new powers were taken the extreme penalty has been inflicted in almost every case that has been brought to the Council's notice, and the annual reports have informed members of the expulsions which have taken place. IAN MACALISTER,

Secretary R.I.B.A.

"A Treatise on Hand-Lettering."

To the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.

SIRS,—With reference to the review under the above heading on page xiv. of your issue for last week, apparently the reviewer is unaware of "Writing and Illuminating and Lettering," by Edward Johnston (John Hogg, 6s. 6d.), in the Artistic Crafts Series, edited by Professor Lethaby. Mr. Johnston has taught nearly everybody who writes well to-day, and I think "the instructor at the Camberwell School of Arts and Crafts" was his pupil. Indirectly he is also responsible for most of the good printing that is becoming fairly common here and on the Continent.

S. B. K. CAULFIELD, F.R.I.B.A.

Architects and Stepney Municipal Buildings Competition.

To the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.

SIRS,—In view of the opinion you have been good enough to express upon the design to which my name was attached when these designs were exhibited, I shall be indebted to you if you will afford me space to explain that, owing to my absence on service during most of the time when the drawings were in progress, I never had any intention of claiming more than a share in their production, and for that reason the design was submitted in the joint names of myself and a member of my staff, Mr. A. G. Shoosmith, and to the latter the greater part of any appreciation accorded to the design is due.

On hearing that my name alone had been attached to the drawings I wrote at once to the municipal authorities drawing their attention to the error, but apparently no correction was made in time to repair the mistake, and I am therefore obliged to trouble you with this letter.

H. S. GOODHART-RENDEL.

THE REPORT ON RURAL COTTAGES.

THE following correspondence has taken place between the Society of Architects and the Advisory Committee on Rural Cottages appointed by the Board of Agriculture and Fisheries. The matter is dealt with editorially on page 22:—

Copy of a letter from the Society of Architects to the President of the Board of Agriculture and Fisheries.

28, Bedford Square, London, W.C. May 6, 1915.

The Right Hon. Lord Lucas, P.C., President, Board of Agriculture and Fisheries.
My Lord,

Advisory Committee on Rural Cottages.

My Council desires most respectfully to offer the following observations on the Report of the Advisory Committee on Rural Cottages issued under the auspices of the Board of Agriculture and Fisheries.

The Advisory Committee has, it is stated, presented its Report in a form which it suggests may be of service to those particularly interested in the building of labourers' cottages, in view of which the Committee has selected a number of working drawings and specifications prepared by architects, from which such buildings may be erected.

The Report contains a warning against the indiscriminate use of standardised designs, points out that an important factor in economy is competent supervision during erection, and states that in many cases consultation with the builder will enable economy to be effected without sacrifice.

The Report containing the selected designs and specifications may be purchased for 1s. 6d., working drawings can be obtained for 1s. or 2s. per sheet, and specifications for 1d.

There is no reference in the Report to the desirability of retaining an architect's services, and the natural inference is that such services are unnecessary and can be dispensed with.

Would it not have been in accordance with proper and safe practice and to the advantage of the public and in the best in-

terests of the Board of Agriculture and Fisheries if this Report, most useful in itself, had been accompanied by a definite reference to the necessity of retaining an architect's services in order that the object which the Advisory Committee have in view may be fully attained?

Local authorities, public bodies, and private building owners are already too prone to endeavour to eliminate the architect whenever possible, and my Council anticipate that one result of the publication of the Report will be to accentuate this tendency and to make it possible that the said plans and specifications may be so used that the object of the Advisory Committee will be defeated.

My Council consider that the issue of the report in its present form is most unfortunate from a professional point of view, more particularly at the present time, when the architectural profession is suffering most severely from circumstances caused by the war.

My Council most strongly protest against the precedent which is being set by the Board of Agriculture and Fisheries in this matter, and urges that the Board will give the points raised their careful and sympathetic consideration. If it is too late to make some addendum or additional recommendation to the present Report, then my Council urges that such steps as may be necessary may be taken to ensure that in any further similar Reports issued by the Board, a reference as to retaining the services of architects may be included.

C. McARTHUR BUTLER, Secretary.

Board of Agriculture and Fisheries, 4, Whitehall Place, London, S.W. June 5, 1915.

No. A. 34502/1915.

Sir,

I am directed by the Board of Agriculture and Fisheries to advert to your letter of the 6th ult., addressed to Lord Lucas, on the subject of the Report issued by the Advisory Committee on Rural Cottages, and I am to forward, for your information, the enclosed copy of a letter which has been received from Mr. Christopher Turnor, the Chairman of the Committee.

A. W. ANSTRUTHER, Assistant Secretary.

Copy of the letter from the Chairman of the Advisory Committee on Rural Cottages to the President of the Board of Agriculture and Fisheries in reply to the Society's letter.

May 27, 1915.

To the President of the Board of Agriculture and Fisheries.

My Lord,—The substance of the Society of Architects' objection to the Report of the Advisory Committee on Rural Cottages seems to be contained in the following paragraph of their letter.

There is no reference in the Report to the desirability of retaining an architect's services and the natural inference is that such services are unnecessary and can be dispensed with.

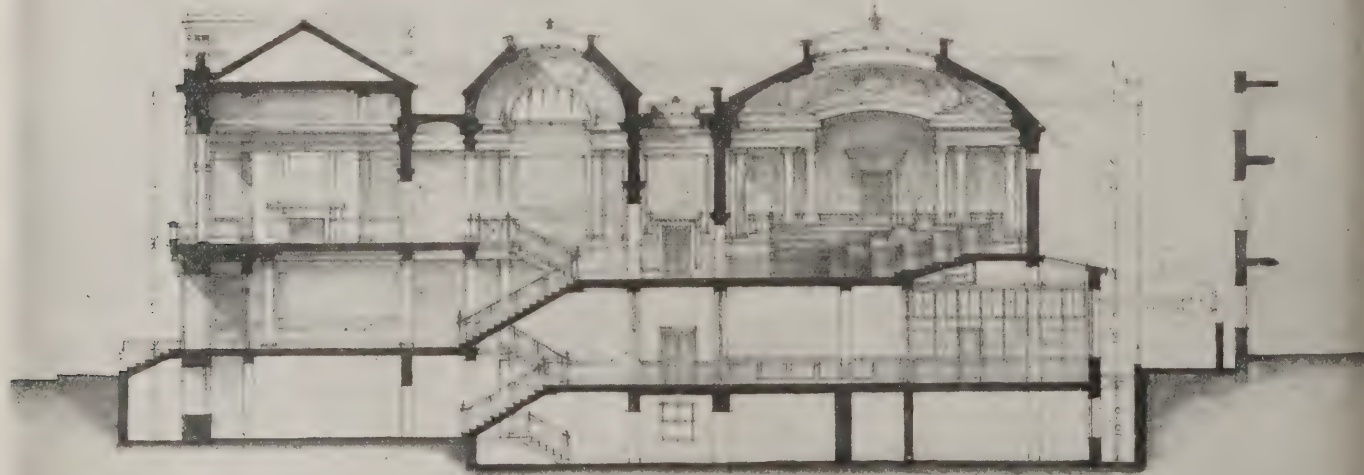
Considering that the sample specifications in the report requires the whole of the works to be carried out "under the direction and to the satisfaction of the architect or employer's agent," thus assuming the services of a skilled supervisor, the Committee hardly think that the inference drawn is derived from the Report.

The Committee would further draw attention to paragraphs 4 and 5 which lay stress on the need for the exercise of care and taste, and for adapting the type designs to the local materials and the building traditions with a view to bringing the building into harmony with its surroundings;

to paragraph 19, which emphasises the need for careful planning of the cottages; and to paragraph 31 which speaks of the importance of a careful lay-out plan with a view to prevent the spoiling of our villages and hamlets by the building of incongruous houses in unsuitable positions.

They do not think these paragraphs suggest that the Committee wished to encourage the dispensing with the services of a skilled advisor.

The view which is strongly expressed in the letter from the Society of Architects is that the Report may have the effect of causing less cottages to be designed by architects, is not shared by the Committee. Only a very small proportion of the cottages now built are designed or supervised by any professional expert. The Committee believe that this is because a few people realise how important are the many questions involved in cottage design.



DESIGN FOR NEW MUNICIPAL BUILDINGS, STEPNEY, LONDON: CROSS-SECTION.
H. S. GOODHART-RENDEL AND A. G. SHOOSMITH, JOINT ARCHITECTS.

(See note on preceding page.)

how difficult it is to find a satisfactory solution within the available resources; and to anticipate that their Report, by drawing attention to all these matters and giving that cottage design needs careful study if it is to be well done, will have the effect of inducing far more owners and authorities to take skilled advice than to dispense with it.

With reference to the suggestion that there should be in the Report a recommendation to employ an architect, the Committee when they considered the point met with the difficulty that other professions claim that the planning of cottages lies within their duties. Both surveyors and estate agents carry out this work, and many of them have made a special study of it; indeed only a limited number of architects have given as much attention to this class of work as have many members of the other professions mentioned. In these circumstances, while the Committee sympathise with the view that cottages should be designed in all cases by those fully qualified to do the work, they do not feel that it is their function to determine that none but architects are so qualified, in face of the claims and practice of the other professions mentioned.

The Committee have endeavoured to make clear the importance which they attach to good planning and good design; they cannot believe that this can be other than beneficial to the architectural profession. In the majority of cases, when the plans issued are made use of without skilled advice, they think it may be safely assumed that no architect would have been employed had these particular plans not been available.

CHRISTOPHER TURNOR.

of reply from the Society of Architects to the President of the Board of Agriculture and Fisheries.

June 30, 1915.

Lord,

Advisory Committee on Rural Cottages.

My Council has received from the Board of Agriculture and Fisheries, and has carefully considered, a copy of the letter from the Chairman of the Advisory Committee on Rural Cottages, Mr. Christopher Turnor, dated May 27, addressed to the President of the Board of Agriculture and Fisheries by way of a reply to the Society's letter of May 6, offering the Council's observations on the report referred to.

I am directed by my Council to thank you for giving them an opportunity of seeing the Chairman's letter, and to say in reply that my Council's observations on the report were made in the interests of the public and not on behalf of the members of other professions or other skilled workers.

It may be said that the sample specification contained in the appendix to the report requires the whole of the works to be carried out in the direction and to the satisfaction of the architect, or employer's agent is the mark, and such reference is made in value by the alternative mention of employer's agent, whom it would be reasonable to assume in every case would be consulted in the planning and designing of the works.

The Chairman of the Advisory Committee admits that only a very small proportion of cottages are built or supervised by any professional expert, and states the alleged suggestion that it is the function of the Advisory Committee to determine that only architects are qualified to design cottages in face of the

claims and practice of other professions to do similar work.

My Council respectfully points out that what it suggested was, that it is desirable that an architect's services should be retained, and not that members of other professions experienced in that particular class of work shall be prevented from doing it if the building owner prefers to consult them.

The fact remains that the Advisory Committee in its report does not specifically express the view that the building owner should retain skilled professional advice of any kind. Certainly it refers to the desirability of consulting a builder, but that appears to be in connection with securing economy by way of supervision, and it is not anticipated by my Council that the Advisory Committee wishes to convey the impression that a builder is necessarily a skilled professional advisor on questions of planning and design.

The Chairman of the Advisory Committee, in the concluding paragraph of his letter, confirms my Council's views that the issue of the plans may lead to their use without skilled professional advice, and my Council cannot agree with the suggestion that no architect would have been employed had these particular plans not been available.

The main points raised by my Council were, first: that the Advisory Committee had not suggested the desirability of retaining an architect's services in carrying out its recommendations; and secondly: that the precedent set by the Board of Agriculture and Fisheries in this matter was unfortunate from a professional, that is to say, an architectural point of view.

My Council respectfully submits that its observations on the report still hold good, and further it considers that an injustice has been done to the architectural profession by the publication of the report in its present form by a Government Department. Under these circumstances my Council proposes to send copies of the correspondence on the subject to the professional journals so that those interested

in the matter may form their own conclusions.

C. McARTHUR BUTLER, Secretary.

4, Whitehall Place, S.W., July 5, 1915.

Dear Sir,—I am desired by Lord Selborne to acknowledge the receipt of your letter of the 30th ult. addressed to Lord Lucas.

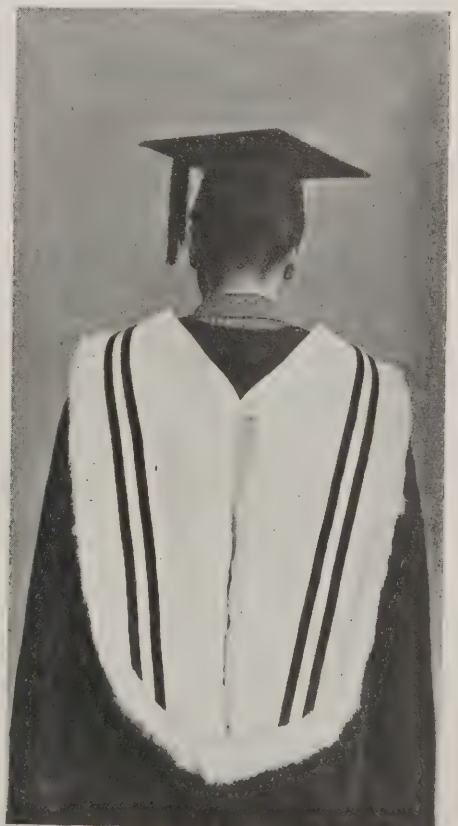
ALEX. W. MONRO.

ROBES OF THE FIRST BRITISH DEGREE IN ARCHITECTURE.

As the first degree in architecture granted by any British University is the "B. Arch." degree at Liverpool, the robes proper to graduation in that faculty, as shown in the accompanying photographic reproductions, will be regarded with special interest.

The hood is of white silk, with two narrow black lines in velvet. These black lines are the distinctive feature denoting the architectural faculty, and they appear again in the stoles of the gown. A white fur edging to the hood is distinctive of the degree of Bachelor; for the degree of M. Arch it will be removed. The same hood, therefore, will serve for both degrees. As a hood of plain white silk is assigned to the M.A. of Cambridge, and as Professor Reilly, the head of the School of Architecture of the University of Liverpool, holds that degree, it seems probable that a compliment to his *Alma Mater* is implied in the resemblance of the Liverpool architectural hood to the Cambridge Arts hood. For the accompanying photographs we are indebted to Messrs. L. Y. and J. Nathan, 4, Hardman Street, Liverpool, official robe-makers to the University.

The course for the degree of B. Arch. at Liverpool extends over five years, of which three are spent at the University and two partly at an office and partly at the University; and the first students to qualify for the degree were presented last month (June).



HOOD AND GOWN OF B.Arch. DEGREE AT LIVERPOOL UNIVERSITY.

CONCRETE AND STEEL SECTION.

(MONTHLY.)

LARGER SIZES OF AGGREGATE ADVOCATED.

Mr. Edward O. Keator, an American civil engineer, advocates, in the "Engineering Record," the use of the largest possible sizes of aggregate. By using smaller sizes, he contends, a great deal of money is thrown away every year. In many instances, principally in paving operations, concrete is now being laid which might just as well be 100 per cent. better without costing more, or might be just as good at a much less cost, simply by using larger aggregate.

Size of Aggregate and Strength.

Large aggregate makes stronger concrete than small aggregate, other things equal. Foremost among the conclusions drawn from the results of several hundred experiments by Messrs. W. B. Fuller and Sanford E. Thompson is that "stone of the largest size makes the strongest concrete." They also state that the best all-round results with the least cement are obtained with a scientifically graded mixture, in which not less than 7 per cent. of the cement and sand mixed will pass through a No. 200 sieve; about 38 per cent. through a sieve the meshes of which are one-tenth the diameter of the largest aggregate; and the remainder increasing uniformly in size up to the maximum. From this it will be seen that sand is a relative term; for example, in a concrete composed of aggregate graded down from a 6-in. maximum, everything under 0.6 in. would be sand. Usually the best results are obtained, with the least cement, when the largest grains of sand are slightly smaller than the smallest stone.

The larger the aggregate, the less surface area to be covered with cement. This means a saving of cement independent of the saving obtained by increased density as related to voids. Surfaces differ from voids in the manner in which they appropriate cement. Voids take the mortar just as it is mixed. Surfaces take the cement and only those grains of sand that are as small as the particles of cement. This is easily proved with the microscope and corroborated by strength tests, and is due to two forces, capillarity and skin friction.

At the age of six months ordinary 1:2:4 concrete has a compressive strength of about 2,800 lb. per square inch. The 1:2 mortar into which the four parts of stone are dumped, has a compressive strength of 4,800 lb. per square inch in six months. Thus the stone added to mortar has robbed the mortar of an amount of cement which leaves it 2,000 lb. per square inch weaker. Moreover, if the concrete is not well mixed, the stone surfaces get their cement only from the mortar in immediate contact with the stone; hence that mortar is weaker than mortar nearer the centre of voids and rupture will occur first at the surface of the stone, a common point of failure. This proves the necessity for thorough mixing.

Surface Area and Size.

A large stone in concrete can be covered with a given amount of cement; broken into pieces the stone will require more

cement. When it is noted that the strength of mortar in 1:2:4 concrete has dropped from 4,800 lb. per square inch to 2,800 lb. per square inch, the importance of conserving the cement in the mortar becomes apparent. The first step is to use the largest aggregate possible; this results in less surface area whether the voids remain the same or are decreased. Since the amount of surface area of a round or square body varies directly as the square of the diameter or of the side, aggregate graded down from 6 in. has but one-third the surface area of an equal amount of aggregate graded down from 2 in. From this it is to be seen that here is an important factor making for strong concrete, and it is reasonable to assume, that with reduction of two-thirds in the surface area where 6 in. maximum aggregate is used in place of 2-in. aggregate, the lost strength of 2,000 lb. per square inch would be reduced proportionately. This would mean then that 1:2:4 concrete using 6-in. maximum aggregate would at six months have a strength of about 4,100 lb. per square inch.

Experiments prove the larger the aggregate the denser the concrete. Here follows another saving of cement, because with specified proportions of cement, sand and stone, it is assumed that the concrete produced can be manipulated. It would be expensive folly to increase the amount of mortar in a concrete that already has sufficient. Using an aggregate graded down from 6 in. increases the density about 12 per cent. with ordinary medium sand and bank-run gravel. In such a mixture there would be 12 per cent. surplus mortar, an inexcusable waste. Twelve per cent. of surplus mortar contains 24 per cent. of all the sand used. If now in a 1:2:4 concrete with ordinary aggregate, sufficient mortar is present and it is intended to use, in place of this concrete, one with the aggregate graded down from 6 in., a part of the mortar can be eliminated in a manner which will actually increase the strength. Since this mortar contains 24 per cent. of the sand put into the concrete, eliminating this amount but with no elimination of cement, leaves 1:1½ mortar instead of a 1:2 mortar; increasing the strength from 4,800 lb. per square inch to 5,600 lb. per square inch. This enriched mortar will raise to a higher figure the 4,100 lb. obtained through decreased surface areas.

Variation in Strength.

Foremost authorities agree that a certain amount of pounding, rubbing and grinding in the mixer is highly beneficial to the production of the strongest concrete for any proportions of ingredients. This is most thoroughly done in a given length of time with the largest size aggregate, and it is an element to be taken into consideration where the strongest possible concrete is desired—another argument in favour of the use of the largest possible aggregate.

Having reviewed the points relating to the importance of large aggregate, it can be stated that from an inspection of tables of strength of mortars and concretes, made from different sized aggregates, an approximately constant relation exists between the strength and size of aggregate, in which the strength seems to vary as the cube of the maximum size and holds for mixtures

of 1/100 in. maximum size up to maximum size aggregates. Test materials larger than 2½ in. in size are available, but as pointed out before, it is reasonable to assume that the relation continues or can be made to continue by reducing the sand and retaining the amount of cement, etc., at least up to the point where it is impossible to handle without machinery. It is a serious mistake not to take advantage of the strength gained by using large aggregate to the limit of practicality. Obviously this applies particularly to concrete used to resist abrasion, as in road work.

Apply these principles to the construction of concrete pavements, the course to follow is very plain. Since limestone has a compressive strength of 10,000 lb. per square inch, a figure well above the strength of any mortar, it is evident that the best wearing surface is one in which the maximum surface of the concrete is exposed to the traffic, bound together by the strongest mortar obtainable.

In 1913 the writer erected a reinforced concrete building at Portsmouth, Ohio, was of the flat-slab type of construction using the C. A. P. Turner system of reinforcing. There were eight slabs, some of which were 6½ in. thick and some 8 in. The concrete specifications called for material passing through a 1¼-in. sieve. This material was available at \$1 per cubic yard which contained too large a proportion of ½ to ¾-in. sizes. Another material containing better proportions of ½ to ¾-in. sizes was available at \$1.40 per cubic yard. The former was dredged from the Ohio River. Upon a visit to the dredge, it was discovered that about one-third of the gravel was being thrown away because it was too large, averaging about 2½ to 3 in. in size. A small amount running up to 5 in. was also present. The writer decided to use this material with one sieve and sand screened out. The results were most satisfactory. Pouring into the centre of the columns eliminated the trouble of climbing the spiral reinforcing. The few stones which failed to pass through the column-head reinforcing readily forced through. The astonishing result to those who saw the extra-large material used was that, after being mixed, it was no longer noticeable. Although the amount of sand for a 1:2:4 mixture was used, the unscreened gravel produced an unusual surplus of good, smooth concrete which greatly lessened the labour of and striking off. Of course none of the concrete was tamped.

Machine-mixing is absolutely necessary to secure the best results.

Reinforced - Concrete Bridges at the

At Van Schoor's Drift, on the main road to Malmesbury, twenty-five miles from Cape Town, Sir Frederic de Waal recently opened two new bridges over the Orange River. The work was started ten months ago, being completed at a total cost of £2,347. The bridges were of reinforced concrete, the waterway under the bridge being 25 ft. and under the approach bridge 60 ft. wide. The main bridge of the continuous girder type and the approach bridge of the same type, with cantilever ends, designed to carry the weight of the heaviest traffic.

EXAMPLES OF STEEL FRAME CONSTRUCTION.—V.

BY PERCY J. WALDRAM, F.S.I.

(Continued from page 17, No. 1071.)

ect of yielding of joint between stanchion and column.

It will be obvious that the bending moment on the stanchion would also be relieved by any yielding of the bolts or nuts forming the joint between the stanchion and the rib.

This would usually be very minute, and the relief it affords would possibly be neutralised by some tipping of the girder on a seating bracket, as Fig. 11, causing increased eccentricity moment. When the girder is secured only by web and top flange bolts, as in Fig. 10, its effect may be calculated as follows.

The moment of resistance of the joint would be the moment of inertia (I_j) of the cross-sectional areas (A) of the bolts or nuts about the point of rotation, divided by the distance D_j of the farthest bolt from the same point and multiplied by the stress on that bolt, or $I_j = A (D_j^2 + 6^2 + 3^2)$ and $MR = SMf = \frac{I_j \times f}{D_j}$.

The point of rotation would probably be at the bottom of the girder. The gap "cc" would be the stress on the furthest bolt divided by E , and the slope permitted by the gap may be expressed as $\frac{cc}{D_j}$.

The stress "f" under a given BM would be $f = \frac{BM \times D_j}{I_j}$ and $cc = \frac{f \times l_b}{E}$. The slope permitted by the flexibility of the joint would therefore be $\frac{BM \times l_b \times D_j}{I_j \times E \times D_j} = \frac{BM \times l_b}{E \times I_j}$.

In the example shown on Fig. 10 with 5/8" bolts (area .688 sq. in.) spaced at 6", 9" and 14" from the bottom of the girder, the moment of inertia will be $.688 \times (9^2 + 36^2 + 81 + 196) = 1.376$.

$322 = 442$ and $\frac{I_j}{2''} = 221$. It will be

obvious that the ratio of joint stiffness to stanchion stiffness $\frac{I_j}{2''} : \frac{I_c}{H_1}$ will be always

high, even when the stanchion is very substantial and stiff, as in Fig. 10. The "I" of the stanchion shown is 1711 and

$H_1 = 30$, $\frac{I_c}{H_1} = 57$, so that the relative

stiffnesses are as 221 : 57. The relief afforded to the stanchion will be measured by the proportion of the yielding of the joint to the yielding of the column, or the

ratio $\frac{1}{221} : \frac{1}{57}$. The amount of the net

reverse bending moment of the beam

end $(\frac{WL}{12} \times \frac{x}{x+1} = y)$ received by the

column will therefore be reduced to

$\frac{WL}{12} \times \frac{x}{x+1} \times \frac{221}{221 \times 57} = 191 = y_1$

or say 80 per cent of what it would be were the joint absolutely rigid. The reverse bending moment on the beam end will of course be similarly reduced, and the central bending moment on the

beam increased in proportion, or $\frac{WL}{8} - y$, instead of $\frac{WL}{8} - y$, or

$\frac{18 \times 168}{8} - 191 = 186$. The SM of the

joint being $\frac{442}{14} = 31.5$, the maximum

stress on the joint bolts would be

$\frac{191}{31.5} = 6.07$ tons per square inch. The

maximum stress on the stanchion due to

deflection will be $\frac{191 \times 7}{1711} = .78$ tons

per square inch.

Another method of calculating the relief

afforded by the joint bolts would be to

reduce $\frac{WL}{12}$ in the proportion of the deflection of beam end to the give of the

bolts and to multiply the result by $\frac{x}{x+1}$

to obtain the final net moment on the

stanchion.

The more customary method of attaching main girders to stanchions is by

means of a stout seating cleat riveted to the stanchion, and a bracing cleat riveted

to the top flange of the girder, and

generally secured with two bolts or rivets to the stanchion (Fig. 11). Such a connection offers the minimum of resistance

to the reverse bending moment, but it will be obvious that if the girder end were merely resting on the seating cleat,

it would, when the girder deflects, tend to tip up and rest on the edge of the cleat, increasing the lever arm of the eccentricity of the reaction by the projection of

that edge. Equally obvious is it that such tipping moment could never equal the severity of the reverse bending

moment $\frac{WL}{12}$ which would tend to operate

if the girder end were rigidly connected, or rather, welded to the stanchion. For

instance, a 12' girder carrying 10 tons, and resting on a 4" seating cleat, $\frac{WL}{12}$

would be 120 inch-tons, whereas the reaction of 6 tons \times 4" is only 24 inch-

tons.

If the reverse bending moment could operate in full, then the "tipping moment"

could not exist, and if the cleat bends, the centre of bearing will be situated

somewhere between the stanchion face and the cleat edge and the lever arm x ,

and therefore the tipping moment would be reduced. A tipping moment can also

only operate if the girder end is free to move upwards and outwards. Such move-

ment would be resisted both by the bracing cleat bolts, and also by those

which secure the girder to the seating cleat, but any resistance to tipping tends

to call into play reverse bending moment. The action of any given girder depends

largely upon the workmanship of the bolts and rivets. The two extremes are,

on the one hand, a loosely bolted joint with badly fitting holes and a very stiff

cleat on which the girder can tip up and allow the reaction to impose a bending

moment of $\frac{W}{2} \times x$; and on the other, a

very rigidly connected joint in which the full maximum reverse bending moment

(usually $\frac{WL}{12}$) can operate.

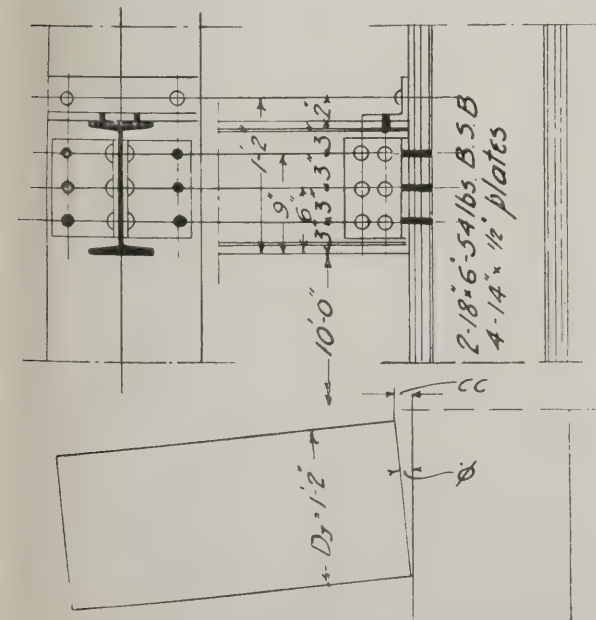


Fig. 10.

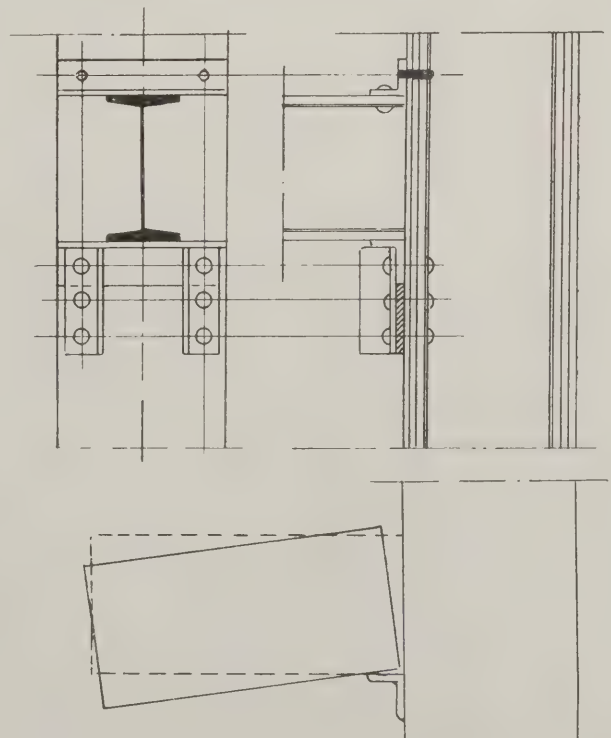


Fig. 11.

From this it will be seen that the customary method of calculating as if x were the distance from the centre of the stanchion to the back face of the seating cleat can scarcely be supported theoretically; but it must be remembered that in the case of columns loaded on both sides in which a bending moment may be caused by the eccentricity of any difference between these loads, such a bending moment could only operate by *lifting* the load on the far side, which load, in addition to its mere weight, has almost invariably considerable rigidity of fixing and other properties to resist such movement.

The whole problem is a matter for engineering structural judgment rather than for mathematical calculation. A solution which is probably very fairly correct is the not unusual practice of assuming for interior columns that the eccentricity x of the reaction from the centre line of the stanchion should be measured to the back of the seating cleat, and that in outside columns, the effect on the column should be taken as the net effect of the reverse bending moment with web cleats as in Fig. 10, and where seating cleats are used a somewhat increased value should be attributed to x , say to the centre of the cleat.

The use of narrow seating cleats and even the insertion of narrow strips of thin packing under the end of the girder, or the bending down of the projecting ends of the cleat, are obvious expedients to keep down "tipping moment."

Sixth Floor Stanchion.

The reaction from the joists attached to the flange bracket operate at a leverage of 15" and tend to impose a bending moment of 5 tons \times 15" = 75 inch-tons. If therefore the main girder reaction were imposed at $\frac{75}{70} = 1.07$ " on the other side

of the stanchion axis, the combined load would be absolutely axial. A small strip of thin metal on top of the back of the seating cleat would probably ensure this, but any fixing of the top of the floor girder carrying the upper stanchion would create a reverse bending moment. The floor girder being loaded chiefly near the stanchion, the end slope would be even more minute than usual, and the amount of reverse bending moment transmitted to the column on account of it would be small. A reaction of 70 tons, however, would probably bend even a stiff seating cleat, and the assumption of an eccentricity of, say, 2" should be ample.

The net bending moment in the column will be $(70 \times 2) - (5 \times 15) = 65$ inch-tons. The centre of gravity of the reactions would be $\frac{(70 \times 2) - (5 \times 15)}{75} = \frac{65}{75}$ say 1" from the centre of the web.

The average coefficient of a web eccentricity with a single joist web being about $(1 + .75x)$, a section capable of carrying 70×1.75 , say, 130 tons axial in a length of 9' with one end fixed may be tried.

A section consisting of a 10" \times 6" and 12" \times $\frac{5}{8}$ " plates has an area of 27.3 sq. ins. and a least $rg = 2.72$ ". Its least moment of inertia is therefore $arg^2 = 27.3 \times 2.72^2 = 201$, and its least section modulus = $\frac{201}{6} = 33.5$. The maximum stress is therefore $\frac{75t}{27.3} + \frac{65}{33.5} = 2.74 + 1.95 = 4.69$ tons per square inch. The permis-

sible maximum stress = $5.5 - \frac{108}{40} \times 2.72 = 4.5$.

Try 12" \times $\frac{3}{4}$ " plates, $A = 30.3$, $rg = 2.8$, $SM = 39.5$. Stress = $\frac{75}{30.3} + \frac{65}{39.5} = 2.45 + 1.65 = 4.1$. Permissible stress = $5.5 - \frac{108}{40} \times 2.8 = 5.5 - .97 = 4.53$.

Fifth Floor Stanchion.

The load carried at the sixth floor will consist of the seventh floor loads and the weight of the sixth floor stanchion and its casing, say $2\frac{1}{2}$ tons, in addition to the reactions imposed by the sixth floor girders, or $75 + 2.5 + 15.5 + 7 = 100$ tons.

The full reverse BM due to a distributed load of 15.5 tons on a girder 34 feet span would be $15.5 \times 34 \times \frac{12}{12} = 525$ inch-

tons. The end slope $\frac{2G}{ED}$ in a girder of uniform flange stress is $\frac{f_1}{ED}$, and in a girder of uniform section it is $\frac{2f_1}{3ED}$. The case of

a compound girder with cut off plates may be taken as the mean between these two values or $\frac{5f_1}{6ED}$, f being $\frac{WL}{8} \times \frac{D}{2I_b}$ the slope would be $\frac{5}{6} \times \frac{WL}{8} \times \frac{1}{2EI_b} = 1\frac{1}{4} \times \frac{WL}{12} \times$

$\frac{1b}{2EI_b}$. The I_b of the compound is 2976.

The moment of inertia of the joint about the bottom of the girder will be $2 \times .688 \times 22^2 = 665$, and the length of bolt shank may be taken at 2". The bending moment received by the joint acting as a spring will depend upon its stiffness as compared with that of the girder. Under a reverse BM of 525 inch-tons the girder would

deflect to a slope of $1\frac{1}{4} \times \frac{WL}{12} \times \frac{1b}{2EI_b}$,

and the joint to a slope of $\frac{WL}{12} \times \frac{1j}{2EI_j}$.

The ratio = $\frac{\text{stiffness of joint}}{\text{stiffness of girder}} = \frac{I_j}{I_b} \times \frac{1b}{1j} \times \frac{5}{4} = x = \frac{665 \times 408 \times 5}{2'' \times 2976 \times 4} = 57$.

The net BM which will attack the stanchion will therefore be 525 inch-tons $\times \frac{x}{x+1} = 515$ inch-tons. Under this

bending moment the stress in the bolts would, however, be $\frac{515}{2 \times .688 \times 22} = 17$ tons per square inch, which is over the elastic limit of say 13 tons per square inch, but the "give" of the stanchion has not yet been deducted.

Assuming that the section of the stanchion is unaltered, the ratio of stiffness of stanchion

will be : $x = \frac{\text{stiffness of beam}}{\text{stiffness of girder}}$

$\frac{I_c}{I_b} \times \frac{L}{H_1} = \frac{201}{2976} \times \frac{408''}{32''} = .84$. The

proportion of the BM received by the stanchion will therefore be $\frac{515 \times x}{1+x} =$

$\frac{515 \times .84}{1.84} = 230$ inch-tons. From this

must be deducted the reverse bending moment from the side joists of 7 tons \times 10" = 70 inch-tons, leaving 160 inch-tons. This is equivalent to a web eccen-

tricity of 1.6" for the whole load of tons, and a section may be selected take $100 \times \{ 1 + (1.6'' \times .75) \}$ 220 tons over a length of 9' 0" with f ends.

If the plates be increased to 12" the area = 35.3 and the least $rg =$ whilst the permissible stress = 6.5 -

$\times 2.92 = 5.6$ tons per square inch

least section modulus is $36.3 \times \frac{2.92}{6} =$

51.3, and the maximum stress = $\frac{160}{51.3} = 2.73 + 3.1 = 5.83$. The pl

might therefore be altered to $1\frac{1}{8}$ " by addition of one $\frac{3}{8}$ " plate, giving an area 39.3, which will obviously be sufficient without considering the increased modulus and radius of gyration.

It should be noted that the foregoing calculations assume that the bolts rivets in the bracing cleat will act at the fullest capacity. Quite a minute slackness in them would relieve the stanchion from the large bending moment allowed for. The method is a drastic one, and is not suggested that it is absolutely necessary to the safety of built stanchions under the statutory stress. In practice it would generally be employed for stanchions in expensive façades where cracks due to slight bending would be a serious matter.

PAINTING STRUCTURAL STEEL

It should generally be found possible to design almost any structure that inspection and painting are relatively easy, and thus insure the longest life for the structure consistent with the given conditions.

Simplicity of construction is one of the chief objects to be desired, yet it may prove possible so to design that every part can be inspected and maintained. However, if any part is inaccessible so that cannot be coated with paint and protected from decay or corrosion must take place and increase. All complicated details, such as depressions, horizontal pockets, cracks, crevices, etc., in which dirt and water may collect, should be avoided as far as practicable. Every part should be so designed that it can be examined, repaired, and painted. If necessary, special facilities such as examination platforms, ladders, etc., should be provided.

Money is wasted through repainting entire structure at short intervals. If paint fails more rapidly on the sunny and the exposed sides of a structure, it would pay to clean and touch up these sore and naked places when needed, and let the healthy parts alone. Look well to joints, fittings, contact surfaces and hidden parts, that water may be excluded from them.

One coating of any good oil paint will form a skin about 1/500 in. thick over a smooth non-absorbent surface such as naked steel. As all paint films are more or less permeable to moisture, it is obvious that one coat is inadequate to inhibit the corrosion of a steel surface; in fact, it is too tender even to withstand the erosive effects of wind and rain. A paint skin closely resembles animal epidermis; the vital distinction between the human skin and a paint skin being that the former has the power of renewing itself, while the latter has not.

If a painted surface is seemingly dry

day, it is best to wait, to be safe, four days before re-coating it. This will insure only satisfactory drying, but such hardening of the layer that it is in fit condition to receive another coating.

The drying of oil paints may be described as a sort of breathing process; the oil must not take on oxygen from somewhere, it must exhale or give off carbon dioxide and water, else it cannot dry. A pound of oil gradually gains about one pound in weight in drying, then much more slowly loses in weight until decomposition. Maximum power to resist atmospheric influences is attained at maximum weight, but no definite time can be set for drying because it depends upon various factors.

WHERE FIRE TESTS OF REINFORCED CONCRETE BUILDINGS.

In an intense fire at Messrs. Davis and Son's Tannery at Kingston, Ontario, demonstrated very clearly the eminently resisting character of reinforced concrete construction. These works consisted of several so-called fireproof buildings adjoining a reinforced concrete building. It is a remarkable fact that whereas all the other buildings were completely destroyed, the reinforced concrete building remained uninjured, although it was close up to buildings that were burnt down. A five-storey brick and steel building was completely destroyed, and of the brick one-house nothing was left but a mass of ruins. There was a leach-house on the roof with reinforced concrete walls built on the interior structure, which consisted of steelwork with hollow tile floors; reinforced concrete walls stood up, but the interior collapsed. A few days after the fire the owners had made good the damage to the reinforced concrete building and continued work in it. A fire in a six-storey warehouse of reinforced concrete at Youngstown, Ohio, is

believed to have been caused by an explosion on the sixth floor, where two carloads of matches were stored. For three hours these matches burned furiously, the temperature reached being 1,700 degrees. In spite of this furious fire, a careful examination of the roof construction immediately above revealed practically no injury to this portion of the building. On the fifth floor the injury to the reinforced concrete structure is but trifling, and in other parts of the building the structural injury was inappreciable, although fierce fires of highly inflammable materials, such as paper bags, had occurred in them.

Immediately after the fire a test load of 300 lb. per square foot was placed over all the areas, and the maximum deflection of any beam was found to be only one-sixteenth of an inch. Although the value of the contents destroyed was £40,000, the injury to the building was made good at an expense of less than £500. The building was constructed on the Kahn system of reinforced concrete; and Mr. William Black, who contributes an article on the subject to the current issue of "Kahn Concrete Engineering," quotes from a letter received by the Trussed Concrete Steel Company from Mr. Charles C. Knox, Inspector of Buildings at Youngstown, the following well-merited encomium: "It must be very gratifying to your company to know that you have a type of construction which will stand such intense heat with great weights imposed upon the floors."

Mr. Black, from whose article the accompanying illustration is reproduced, claims that it points clearly to the fact that if a building is constructed of reinforced concrete and a proper system of reinforcement is employed, there is but little danger of any complete disaster from fire. Although the entire contents of any one floor can be burnt out, unless the building is constructed with fireproof division walls, nevertheless the damage is generally confined to that one floor, and no single instance has ever been brought

to the writer's attention where a fire resulted in the complete destruction of a reinforced concrete building. It is a bold claim, but we believe it to be fully justified.

TRADE AND CRAFT.

Waterproofing Flat Roof

At new schools at Bolton flat roofs over the verandahs are being laid with waterproofed cement concrete. "Pudloed" cement roofs are being increasingly specified.

Change of Address.

The British Reinforced Concrete Engineering Co., Ltd., have (since July 2) removed from their premises at 82, Victoria Street, Westminster, to 1, Dickinson Street, Manchester, where larger and more convenient offices have been secured in close touch with their works at Trafford Park, Manchester.

A Handy 'Phone Directory and Writing Pad.

A select list of the telephone numbers that are most frequently required in a given office is an almost essential addendum to the 'phone directory, and the most convenient form it has as yet assumed is that of a wall-card on which are mounted the sheets ruled for name of firm, designation of exchange, and telephone number; the sheets being designated alphabetically, with a stepped indicator giving instant reference to the sheet required. Of this character is the sheet 'phone directory which Messrs. Claridge's Patent Asphalt Company, Ltd., 3, Central Buildings, Westminster, supply free on application. It is fitted, moreover, with a writing pad of convenient size and shape, each sheet being perforated for tearing off; and the whole apparatus is so neat and unobtrusive, as well as useful, that architects will be glad to have it in their offices.



EFFECTS OF FIRE AT CANADIAN TANNERY: REINFORCED CONCRETE BUILDING INTACT.

SPECIAL LEGAL REPORTS.

Builder and Contractor and the Workmen's Compensation Acts.*McGuire v. Gabbott.*

June 22. Court of Appeal. Before the Master of the Rolls and Lords Justices Pickford and Warrington.

This was an appeal by the respondents from an award of Judge Sturges, of the Preston County Court, under the Workmen's Compensation Acts. The County Court judge awarded the applicant, Thomas McGuire, a bricklayer, of Lorne Street, Farnworth, Bolton, the weekly sum of 18s. 6d. to commence from date of accident, in November, 1914, and to continue during the period of his total incapacity from work. The respondent, Mr. J. T. Gabbott, carries on business as a contractor at Preston, and he was erecting a new mill at Bolton, which was ultimately to be five storeys high. When it got up to the second storey a hoist was erected for the purpose of taking up material. It was said that the respondent had expressly forbidden the use of the hoist by his foremen or men. But they ignored this order, with the result that one day in going up in it the chain broke, and the lift fell a distance of 65 ft., the applicant, who was in it, injuring his head and jaw and sustaining a fracture of the left leg, and he had been incapacitated from the date of the accident.

Mr. Rigby Swift, K.C., for the respondent, said the point was whether the accident arose out of and in the course of the applicant's employment. Here the applicant disobeyed the express instructions of the contractor, and this led to the accident. His submission was that the County Court Judge was wrong in law in holding that the accident arose in the course of and out of the applicant's employment.

Their lordships held that there was no evidence of express prohibition to the applicant to use the hoist, and they accordingly dismissed the appeal.

Builders' Claim against Architect and Surveyor.*Wm. Oley and Co., Ltd. v. Hollis.*

June 16. Official Referees' Court. Before Mr. Verey.

Messrs. Wm. Oley and Co., Ltd., builders, of Lynton Road, Crouch End, sued Mr. Wm. Hollis, architect and surveyor, of East Finchley, to recover balance of account for building three bungalows and other work at East Preston, near Brighton.

Mr. R. Moritz appeared for the plaintiffs and Mr. Woodgate for the defendant.

Mr. Moritz said the claim was for work done and material supplied in connection with the erection of three bungalows at East Preston, and the plaintiffs sued in respect of two sums, in the first place in respect of work done since the company was incorporated, and in the second place as assignees of Wm. Oley, who had done work prior to the incorporation.

In October, 1913, defendant asked Messrs. Oley to build a third bungalow, the arrangement in that case being that all payments were to be made weekly, and in consequence the payments were made regularly, but the balance sued for was in respect of the three. With regard to the first two the actual amount expended for labour was £226 8s. 1d., and for materials £391 4s. 8d. The 10 per cent. profit on the two in accordance with the contract was £62 14s. 7d. In addition to this there was an item of £15 14s. 7d. for timber for bathing huts ordered by the defendant, making a total of £695. With regard to the third bungalow the accounts were for labour and materials, plus 10 per cent. profit,

£394 3s. 4d. In addition the claim included three small items, £6 10s. for work at the parish hall, £2 5s. for work at the house of a Miss Courtney, and £1 9s. for work at a house at Finchley. These amounts brought the total expenditure up to £1,079 7s. 4d.

The defence set up was that the work was badly done and that the charges were excessive; but, said counsel, the defendant never said a word about these complaints until he was sued, although scores of letters had passed between the parties.

The Official Referee, in giving judgment, said that the case was clear. The contract to build was admitted and the terms were not disputed. The plaintiff sent in his accounts for wages weekly, and if the defendant was not satisfied he should have asked for what he wanted, but he did not make any complaint at the time, either as regards the wages or materials. He came to the conclusion that the plaintiff had proved his case, and after making some small deductions, which were agreed upon, he gave judgment for the plaintiff for £211 7s. 9d., with costs, and dismissed the counter claim with costs.

A stay of execution was granted.

**UNIVERSITY OF LONDON
SCHOOL OF ARCHITECTURE.**

An exhibition of students' work done during session 1914-15 is on view in the Architectural Department, University College, Gower Street, until Saturday, July 24, from 10 a.m. to 5 p.m. The exhibition includes drawings and designs made in the School of Architecture and the newly-founded Department of Town Planning. The Sir William Lever Prizes have been awarded as follows: Stage I., Town Planning: Scheme for a Central Railway Station on the Surrey Side. First prize, £15, A. G. Wood; second prize, £10, H. N. Fisher and L. H. Shattock (bracketed equal). Stage II., Architecture: The Architectural Development of a Portion of the Above: First prize, £15, H. N. Fisher; second prize, £10, I. Reicher; honourable mention, A. G. Wood.

Messrs. Harris and Sheldon, Limited.

We are informed that at a board meeting held on the 9th inst., Mr. J. W. Stockwin and Mr. T. E. Sellers were duly elected members of the board. Both these gentlemen were on the staff long before the flotation of the company, and have an intimate knowledge of the details of the business.

Builders' Benevolent Institution.

The sixty-eighth annual general meeting of the donors and subscribers of this charity is being held at the offices, Koh-i-Noor House, Kingsway, this afternoon (Wednesday July 21), at 4 p.m., when the annual report will be submitted and the meeting will elect a president, treasurer, eight members on the committee of management, and two hon. auditors for the coming year.

COMPETITIONS.**Cottages, Bromborough Port Estate.**

Messrs. Lever Bros., Ltd., of Port Sunlight, write, stating that two of the competitors for the above sent in their drawings without enclosing envelopes, with the result that it has been impossible to discover to whom the drawings belong. Any competitor, therefore, who has not received his drawings back should communicate with Messrs. Lever.

WAR ITEMS.*"The War: Its Social Tasks and Problems."*

From July 12 to 31, a summer course organised by Professor Patrick C. and Dr. Gilbert Slater, is being held at King's College, London, with the object of presenting a sociological interpretation of the war. Mr. Raymond Unwin and H. V. Lanchester are among the lecturers.

Architects as Munition Workers.

Professor C. H. Reilly, of the Liverpool University School of Architecture, has been appointed an inspector of munition making, and will (says the "Liverpool Daily Post") be one of ten who will supervise this work in Liverpool. Engineering is no new craft to him, for he studied at Cambridge before he devoted himself to architecture. The University staff probably provide several other inspectors.

Another Recruit from the "G.E.C."

The General Electric Co., Ltd., has applied to H.M. Forces many officers and men, several of whom have already distinguished themselves in the field. Their latest officer-recruit is Sub-Lieutenant A. Courtenay (late acting-manager of G.E.C. Publication Department), who has been gazetted sub-lieutenant in the Naval Air Service, Armoured Car and plane Support (Royal Naval Volunteer Reserve), and is now undergoing a course of gunnery.

Artists' War Relief Exhibition.

An exhibition of pictures and drawings is being arranged by the Imperial League and the Royal Institute of British Architects jointly, to be held in the galleries of the Royal Institute in Marlborough Street, for the benefit of painters and architects who are suffering from the effects of the war. It will be opened on Wednesday, July 28, and will remain open for four weeks after that date. As far as the Royal Institute is concerned the exhibits are divided into two classes: (a) Works to be sold for the benefit of the War Relief Fund of the Architects' Benevolent Society (these may be works by the donor or by any other artist); (b) works by architects sent to be sold for their own benefit. A distinction is made in the catalogue.

Skilled Men for the Royal Engineers.

Once more the Royal Engineers are recruiting for new Field Companies to back up those now fighting in France and the Dardanelles. They ask for skilled, intelligent, vigorous men, and particularly those who have been used to responsible work, as it often happens that individual soldiers of the Royal Engineers have to take charge of working parties of other arms. Painters, bricklayers, masons, and carpenters connected with the building trades, employed on Government work or in the production of munitions of war, are required; also a few coopers and experienced draughtsmen and surveyors. The work is interesting and varied, including bridging, pontooning, earthworks, and explosives. Each company has its own transport vehicles, and horses, and some men experienced in care of horses are wanted as drivers. The pay is considerably higher than in some other branches of the service. Young unmarried men especially should not miss this opportunity of serving their country. Applications should be made once to the Recruiting Officer, 10, Victoria Park Square, London, N.E.

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THE VILLA D'ESTE, TIVOLI.

(From Piranesi.)

THE ARCHITECTS' & BUILDERS' JOURNAL.

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TOTHILL STREET, WESTMINSTER.

VOLUME 42. No. 1073.

EDITORIAL.

RATHER painful details are to be expected at a housing inquiry, and the revelations at an inquiry held by a Local Government Board inspector at Dublin were not exceptionally squalid. Most of the houses that the corporation desire to demolish were built early in the eighteenth century, and, said one of the witnesses, "only that they had been so well built they would have been down long ago." Probably, like so many old houses, they have "come down" in a figurative sense; for it happens almost inevitably in all towns that the commodious houses built originally for the comparatively well-to-do are eventually inhabited by swarms of the poorest members of the community. In one area that the Dublin Corporation seek to reform, a whole family may be found living in one room, and cellars to which neither air nor sunlight has sufficient access are inhabited; and it is difficult to suppose that the sanitation of these old houses is up to date.

Failing an occasional sharp reminder, such as the condemnation of the old houses in Cloth Fair and the description of some of the slum areas in the Dublin scheme as "pestilential spots," one is apt to forget how new a thing is sanitary science. Less than seventy years ago, the idea was as unwelcome as it was unfamiliar, as may be inferred from the experience of Dr. Buckland when he was made Dean of Westminster. In 1848, Buckland, two of his daughters, and several other persons, were attacked with typhoid fever that was caused by the accidental opening of an old drain by some workmen who were making alterations in Dean's Yard. Several deaths occurred, and the Dean, as soon as he recovered, set to work to reform the drainage system. He then introduced a system of pipe-drainage which was the first of its kind ever laid down in London. "This experiment," he says, "on the drainage and sewerage of about fifteen houses and an area of about two acres affords a triumphant proof of the efficacy of draining by pipes, and the facility of dispensing entirely with cesspools and brick sewers throughout London." So great, however, was the prejudice against innovation, that the outbreak of fever came to be popularly ascribed to the Dean's zeal for sanitary reform!

It was Dr. Buckland who was the means of keeping in this country that other eminent pioneer of applied science, Lyon Playfair, who had received a tempting offer to become Professor of Chemistry in the University of Toronto, but who declined it at the instigation of Sir Robert Peel, to whom Buckland had represented the desirability of keeping Playfair at home. At about the time (but a year or two earlier) when Buckland was reforming the drainage at Westminster, Playfair was investigating that of Eton College and inquiring into the sanitation of Buckingham Palace. Playfair writes: "The condition of the palace was

then so bad that the Government never dared publish my report. At that time a great main ran through the courtyard, and the whole palace in untrapped connection with it. To illustrate this I painted a small room on the basement floor with wall paper, and showed that it was blackened next morning. The kitchens were furnished with batteries of charcoal fires without flues, and the fumes went up to the nurseries. . . . The architect was immediately called upon to prepare plans for putting Buckingham Palace into a proper condition, at a considerable outlay, and although Parliament tried to get a report, it was considered too frank and brutal a production, as I treated the sanitary condition of the palace just as I would have done that of any other house." It is a great pity that that report was secret. Its publication would have hastened sanitary reform; which cause, however, doubtless gained much momentum from "the example of royalty."

Dean Buckland was a conscientious custodian of the Abbey. He did his best to keep the fabric and monuments in repair, and his passion for geology was perhaps the first pioneer in that science—have made him rather a terror to masons and builders. He had the pavement in the cloister thoroughly repaired, and the gas laid on: also he had Great Dean's Yard pavement renovated and a new gateway erected. He had found "the whole place in a thoroughly dilapidated condition: the broken stonework in the bays in the cloisters was merely held together with bits of wood." He restored all the pinnacle buttresses on the south side of the Abbey, the monks' burying-ground—the cloister garth, the 'ing-green' of Westminster School—was turned into a stonemasons' yard for several months, so great were the external repairs that were needed. Buckland fully superintended the masons' work, whether external or internal, that was going on in the Abbey or in any other collegiate buildings in which he was interested; he examined with his own critical experienced eye the various kinds of cement and blocks of building-stone, and the means adopted for repair and keep in order the regal and other monuments; and, above all, he took special care that no faulty bits of stone were used, and that no broken pieces of monuments were thrown away."

Broken pieces that had been abstracted by unscrupulous curio-hunters were occasionally returned to him. Once he received a piece of black oak, about the size of a lucifer match, which the sender had in boyhood cut off from the coronation chair, and in his old age he had repented of the deed. At another time he found small marble heads that had been taken from the tomb of André's tomb by an American visitor were returned to him.

the United States; the relic-hunter being then in his death-bed and unwilling to die in possession of stolen images, which Buckland reverently put back into his own hands into the positions from which they had been purloined. Modern Americans are, of course, much too conscientious to cut off splinters from the venerable monuments of the Old Country.

* * * * *

Buckland insisted on the use of Normandy stone for the repairs at the Abbey. No doubt he was a bit fussy and faddy; but he was always good-natured. He had an odd notion about the decay of Roman villas. He was acquainted with every Roman villa that was then known in the kingdom, and he carefully investigated the Roman methods of building, draining, and warming. As a result of his investigation, he became convinced that Roman villas did not have fallen into such complete ruin if the earth had not been absorbed by snails to form the thickness of their shells. He thought also that snails had the power to destroy stone, either by depositing an acid secretion or by wearing it away with a like tongue. Possibly he was right. One knows the havoc wrought by birds pecking-out mortar to get material for their egg-shells, but Buckland was too much of a naturalist to confuse their depredations with the work of snails.

* * * * *

A correspondent of the "Tablet" newspaper has on record what he calls "one or two memories of an old man" relating to the building of the Houses of Parliament. When he was about twelve years old, a writer, who signs himself "Senex," went with his father to see Mr. Milne, one of the Commissioners of Woods and Forests, who said, "I have just come from an interesting meeting about the designs for the Houses of Parliament. We had to decide on three designs to be given. One design was so superior to the rest, we had no difficulty about the first prize. We had some discussion about the second and third. The second was the more remarkable as our instructions were that the designs should be in the Elizabethan style of architecture, whereas this design was in the Tudor style." "Senex" proceeds to say, "The design was given in under the name of Barry. Probably the ground-plan was his, but it is quite recognised that the elevation was by Pugin, as his son contended that it rather was 'the art architect' of the Houses of Parliament."

* * * * *

It must have been in 1836, "Senex," who was then twelve years old, must now be ninety-one, and may well be excused if his memory on these matters has become somewhat dim. A brief recapitulation of the actual facts may serve to correct any slight inaccuracies into which he may have fallen. Sir R. Smirke had been asked to prepare designs for the new Houses, the Government were urged, and they concluded, to open a competition. In the conditions it was stated that the style was to be "Gothic or Elizabethan." Four premiums, each of £500, were offered, and the drawings were to be sent in on November 1, 1836. There were ninety-seven competitors, and on January 20, 1836, it was announced that the first premium was awarded to Mr. Charles Barry.

* * * * *

A nonagenarian, in reviving the old controversy between Pugin and Barry, makes an utterly unwarranted assumption, which does a grave injustice to the memory of Barry, and would surely grieve the ghost of Pugin. In his well-known letter of September 3, 1881, A. Welby Pugin expressly repudiates the claim of "Senex," following a thousand others, once more to do justice for him. After stating that he had been

engaged by Mr. Barry "to assist in preparing working drawings and models from his designs of all the wood-carvings and other details of the internal decorations," and for other subordinate services, Pugin concludes: "In fulfilling the duties of my office, I do not do anything whatever on my own responsibility: all models and working drawings being prepared from Mr. Barry's designs, and submitted to him for his approval or alteration, previous to their being carried into effect; in fine, my occupation is simply to assist in carrying out practically Mr. Barry's own designs and views in all respects."

* * * * *

That smashes utterly the really wicked insinuation that Barry sent in another man's designs under his own name. If "Senex" were not a nonagenarian, we should tell him that he ought to be thoroughly ashamed of himself for uttering so baseless a slander. There is, it would seem, a well-marked type of mind that delights in this kind of obscurantism. It affects to know better than to accept the simple and obvious fact. It prefers the more complex and vastly more ingenious exercise of the wits involved in the contention, against all probability, that B did the work which is attributed to A by the profane and vulgar crowd—that Pugin was to Barry as Bacon was to Shakespeare, or that George Cruikshank, not Charles Dickens, was the real author of "Oliver Twist," and so on. In denying that Pugin was in any sense the architect of the Houses of Parliament, it is unnecessary to deny that, fast friends as they were till Pugin's dying day, they must have co-operated most cordially in the work as it proceeded, or that Pugin was allowed a pretty free hand within the domain in which he was an unrivalled master; but thus much may be admitted without lending countenance for a moment to the absurd contention that he was Barry's ghost—an accusation that does even more dishonour to Pugin than to Barry.

* * * * *

Gothic was not Barry's natural preference; his bent was, indeed, strongly and decidedly Classical. He had an orderly and a logical mind, loving unity and regularity in design. Hence he was so excellent an exponent of the Italian spirit that his Travellers' Club in Pall Mall—which, dating from 1829, was the first of his buildings to bring him reputation—became a recognised exemplar in that kind. There were those who said that its Pall Mall front was a mere copy of the Villa Pandolfini at Florence; the retort being that, like the Pandolfini, the club-house was of two storeys and had doors and windows. Barry, indeed, was persistently charged with want of originality; and in defending him his biographer makes a very clear statement of the case. "It is," he says, "the characteristic of genius to create out of materials common and well known to all; and its creations are universally recognised and accepted as the clear and beautiful expression of that which is vaguely felt by the generality of men. If a man, in order to be original, defies established principles, and despises the treasures of the past, he voluntarily places himself on a level below that which has been already attained by humanity. Originality, in the true sense of the word, implies that ideas and suggestions from without shall be truly appreciated, studied, and reproduced with the stamp of native thought and imagination upon them." Remembering his Reform Club, his Bridgewater House, his Trentham Hall, his Cliefden House, his Shrubland Park, and his alterations to the Government Offices in Whitehall, one cannot help regretting that he did not stick to "the Italian style," which, but for his association with Pugin, would probably never have developed the exuberance of decorative detail that vulgarises the last of Barry's essays in Italian, the town hall of Halifax.

HERE AND THERE.

CALIFORNIA, I have always understood, is a place where the Weather Clerk has a definite order for the year's proceedings, and keeps honourably to them, so that a sober body of architects planning a little excursion, or master-builders a "wayzgoose," could be sure of a fine day if according to the calendar it was supposed to be a fine day. California, accordingly, was in my vision a land flowing with milk and honey, with lovely weather the whole summer through. But my belief is disturbed by the Great Wall of the Panama-Pacific Exposition. Round about the festive buildings it stretches, with the Courts of the Seasons snug inside. All of which I took to be a pretty piece of scheming on the architect's part, a sort of mystery barrier to what was to be seen within. There is, however, I now learn, quite another reason for this Great Wall. The exhibition is spread out on the area just within the Golden Gate entrance to San Francisco harbour, a spot exposed to the Western trade winds which, during the four months of summer, May, June, July, and August, blow respectably for seven hours according to the clock, from ten in the morning till five in the evening, blowing, moreover, with steadily increasing force up to about thirty miles an hour (which I believe is what we call a "strong breeze"), and then correspondingly diminishing. And with these winds comes usually a cool fog, carried in from the Pacific Ocean. Hence the Great Wall, which deflects the current of cool air sufficiently upwards to let it pass over the group of buildings within, thus making sun-pockets of the Courts, cosy places to wander in. A neat expedient obviously, but one nevertheless which conjures up a California that differs in this respect from the land of our accustomed fancy, a California with a cool fog at the end of the summer day.

With the "Lokal Anzeiger" and other "tageblatts" we are now quite familiar. Transcripts of their choicest notes on the War have provided good copy, ranging in subject from bread tickets to the things that are in store for us when the first Hunnish foot treads our East Coast soil. Among this varied journalistic fare the "Lokal Anzeiger" tells of the "war bells," these, however, having nothing to do with pæans of victory or a wild ringing out to a wild sky, but being concerned with the anxious business of the melting pot. The brass and copper kettles, stewpans, knockers, and what not have all become patriotically molten, and now even the church bells have joined them company. The German writer tells of bronze and brass baptismal basins, of belt buckles, of metal horns which Little Boy Blue blows in the Alpine meadows, even of crucifixes which have shared the common fate. But it is the gift of bells, war bells, that touches him most. These have come from countless villages in Carinthia, Carniola, the Tyrol, and Styria, and the cannon made with them will convey "a different message" from that which floated melodiously over the mountainside from their brazen mouths.

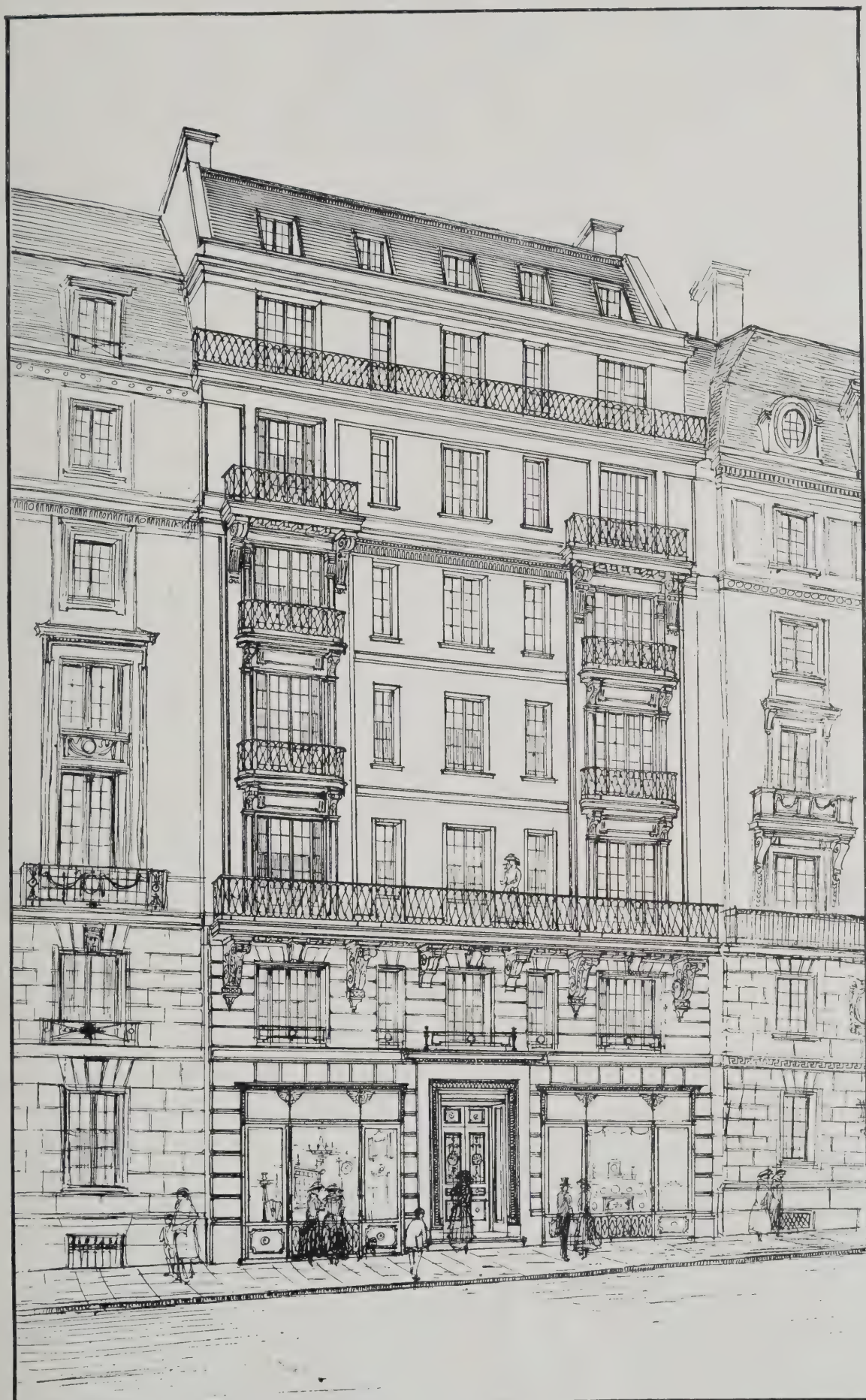
All is grist to the German mill. The bronze lion that stood on its high mound of earth above the field of Waterloo has been taken away with the rest to the melting pot. What a chance for us is here, but one, unfortunately, which we cannot take advantage of. I know more than one church bell whose harsh clang might well find its quietus in an Essen foundry; and who would repine if a ship set out from our shores laden with stalwart gentlemen arrayed in brazen frock coats and side whiskers, statesmen distressingly uncomfortable in knee-breeches, public benefactors in arm-chairs tremendously at ease in the midst of civic traffic, and kings doing a brisk walk with orb and

sceptre? But this cannot be. The unhappy it would splutter in shrapnel and shell over our her the trenches. We must put up with them still, for that chance will favour us in little if not in great. The Zeppelin bomb will claim Mr. Peabody behind Exchange and not Charles the First at Charing

Mr. C. F. A. Voysey has written a book, "Individuality." It is a very admirably produced book, with beautiful type on pleasant paper and a wide margin, but I cannot get on with it. Many of aphorisms on morals, education, fashions in classical architectural principles, craftsmanship, its agreement within me. Here are some samples of its wisdom. "However right we are, there remains the idea that we might be more so." "Many have a sympathetic pang akin to sorrow, at the sight of a fallen tree." (How true, Mr. Voysey: many a timber soul has gone out to some poor bags of lime, lonely and forlorn in the builder's yard.) It is a great step for the imagination to take, to regard animals and flowers the good sentiments we find in man" (a friend, indeed, is the affectionate rose on the wall). "As Ruskin said, 'Good taste is a quality'" (very questionable this, but an assertion serves its purpose in leading up to a description of the English Renaissance as "a style which was first introduced into this country at one of the most corrupt periods of the nation's history": according to which we should stipulate that in all future conditions architects shall submit a certificate of good conduct with their specification). "Could we but have the individualistic spirit and stimulate moral sentiments then, with requirements and conditions clearly before us, we should once more have a noble national architecture, without any revival of any particular style, either native or foreign." "The lack of noble sentiment in our modern buildings is due to the material of the age, which has led to the assumption of a false style, and the acquisition of material qualities." "What you can remember is your own, what you cannot remember is what you steal" (from which it follows that kings and thieves are all those architects busying themselves with pencil and sketch book on a holiday trip). "A very poker at your fireside becomes of interest to you the moment you recognise the sentiments of its maker. Maybe its maker's mind was absorbed by greedy selfish imitation for greed's sake; then will you find grace, no truth, no dignity in your poker. It will be an ill-bred poker, and you will feel no joy in it (beware, then, all buyers of pokers: see that you get with it an honest pedigree from the shopman). The mathematician's maxims of Greek proportion lead to starvation and cold, as if in the presence of death." "Let the debauched artistic appetite live in a museum; it will. But when we are considering the format of a character and the encouragement of individuality, we must search out the true principles that make for improvement." And so on. It is, no doubt, all very beautiful. But it sounds uncommonly like blithering.

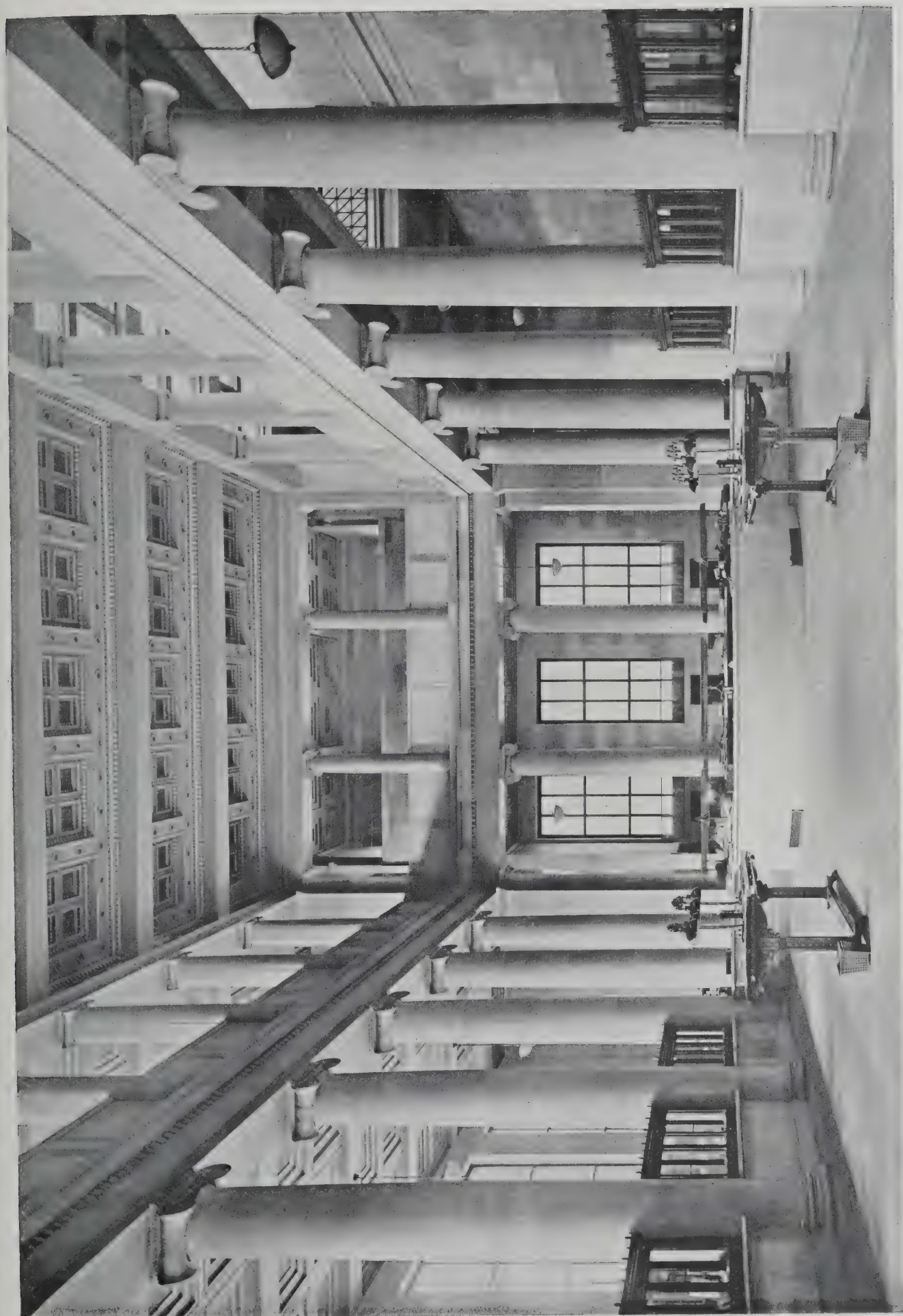
I hesitate to repeat an old story, but I will take the risk with one, even though it be Mark Twain's. A humorist in his early years was editor of a Mississippi paper, and replied thus to a superstitious subscriber who had found a spider in his paper and wanted to know whether this meant good or bad luck for him. "Old Subscriber.—The spider was neither good nor bad luck for you. He was merely looking over your paper to see which firm is not advertising, so that he can go to their premises, spin a web across the top of the paper, and lead a life of undisturbed peace ever afterwards. Plainly a serious warning to any firms who do not presently advertise in this Journal! The quick glare of an intelligent spider might presage ruin for the

UBIQ



CURRENT ARCHITECTURE (SERIES II.). XXXVIII.—RESIDENTIAL CHAMBERS, 10, BERKELEY STREET,
LONDON, W.

RICHARDSON AND GILL, FF.R.I.B.A., ARCHITECTS.

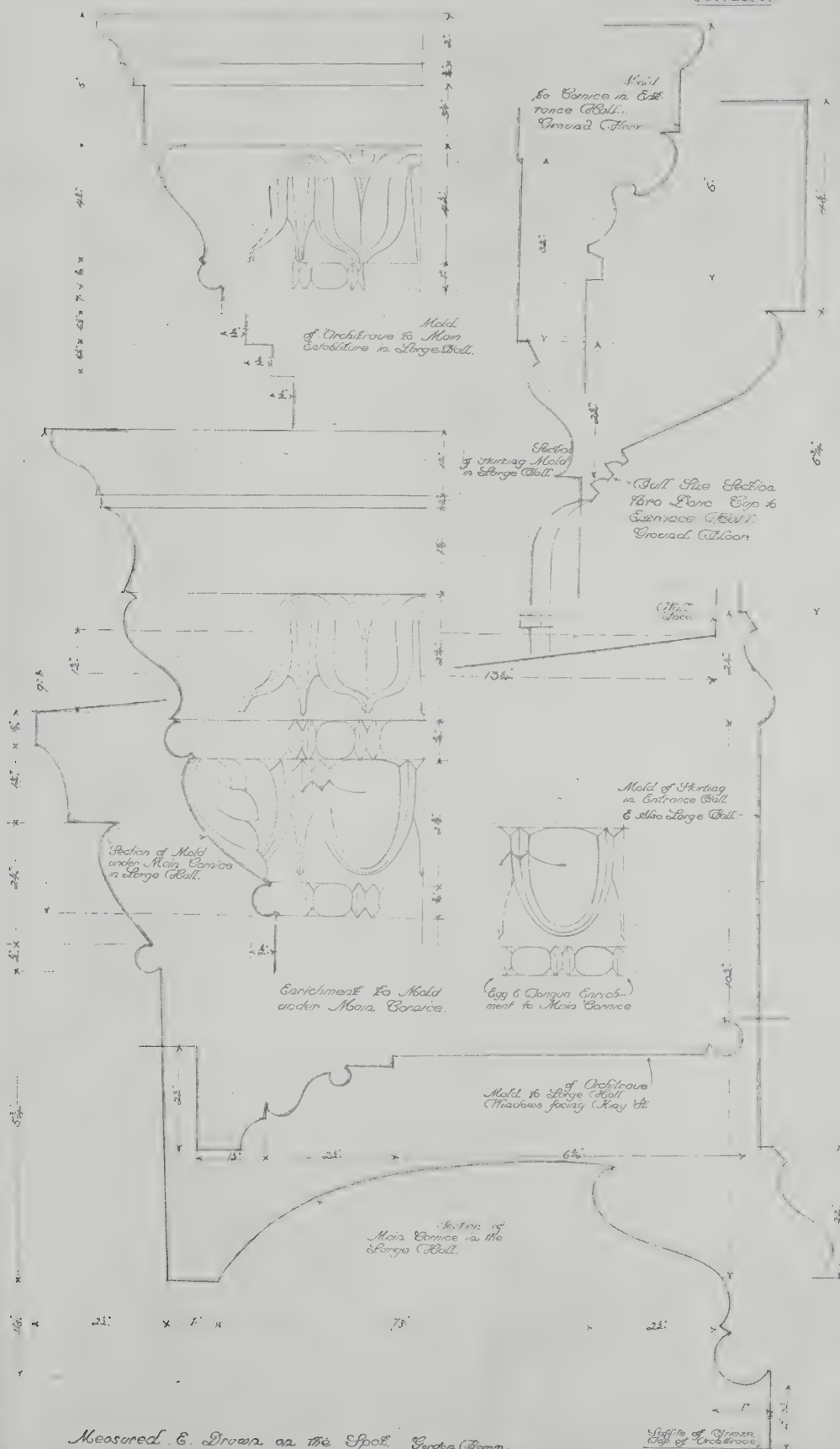


CURRENT ARCHITECTURE (SERIES II.) XXXVIII.—BANK OF MONTREAL, WINNIPEG.
McKIM, MEAD AND WHITE, ARCHITECTS.



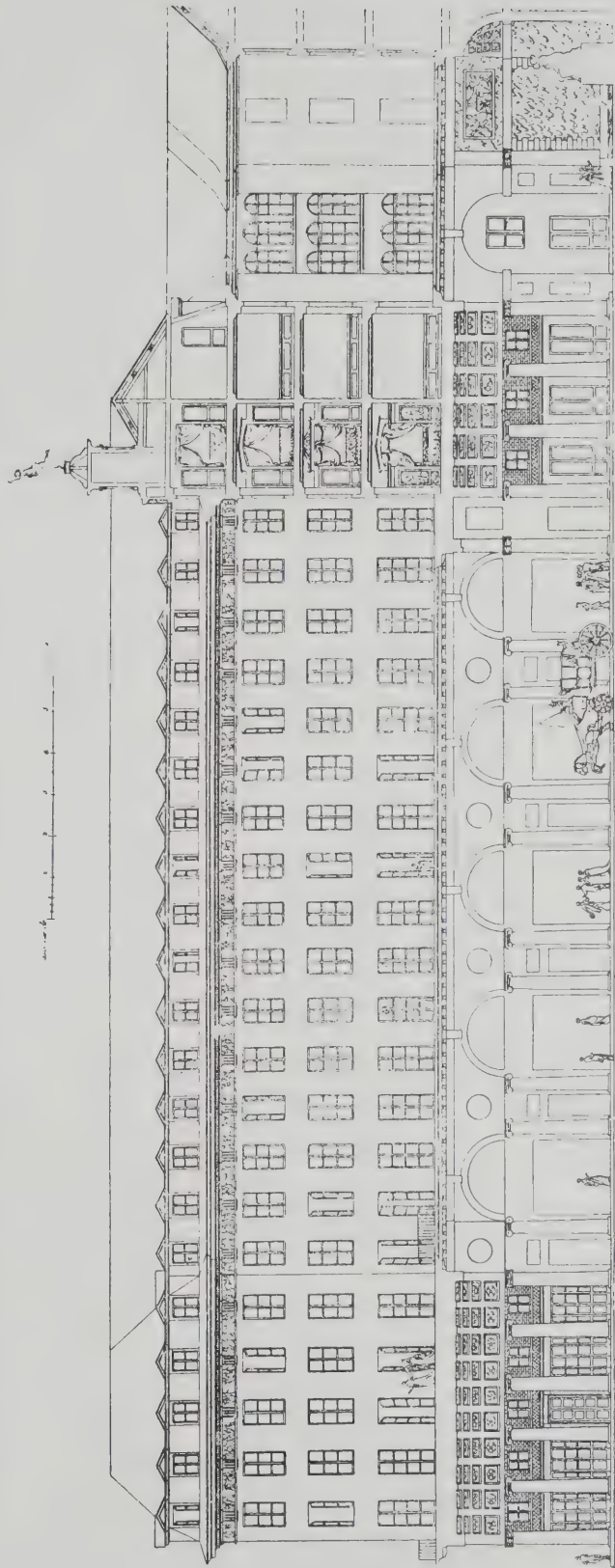
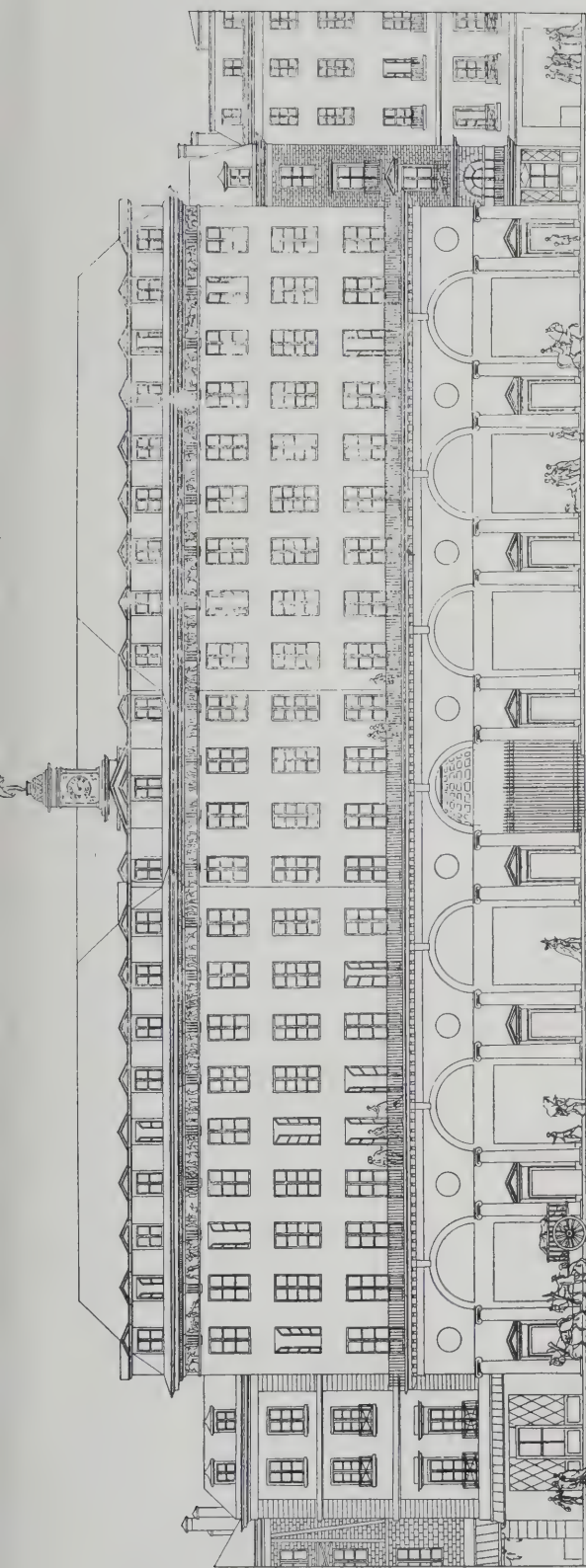
DETAILS OF CRAFTSMANSHIP. XXVIII.—COUNTER RAILING, BANK OF COMMERCE, WINNIPEG.
DARLING AND PEARSON, ARCHITECTS.

Manchester Old Town Hall.
Details of Moldings & Enrichments to Main, & Entrance
Halls.

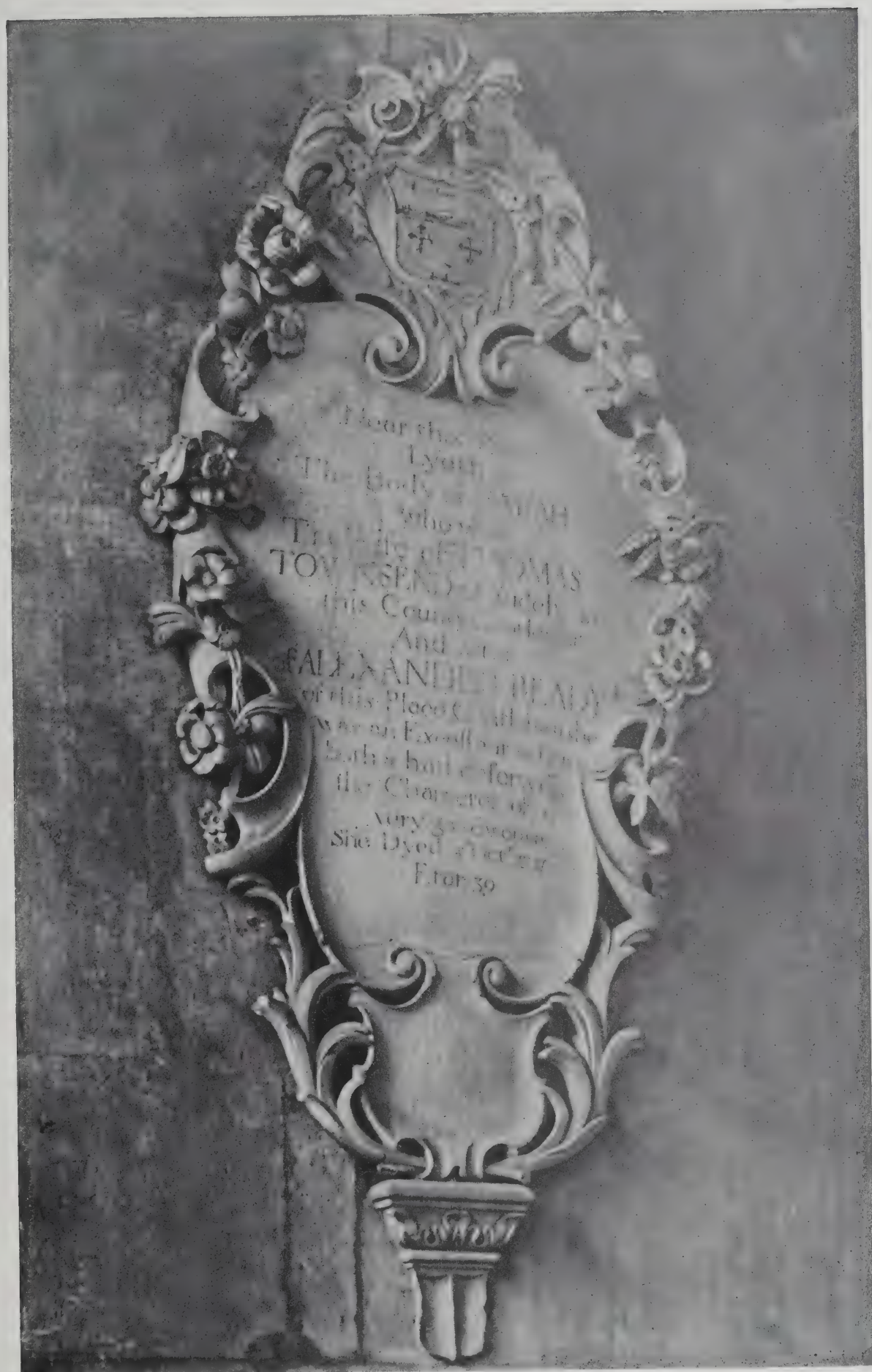


MANCHESTER OLD TOWN HALL. VII.—MOULDINGS AND ENRICHMENTS TO MAIN AND ENTRANCE HALLS.

MEASURED AND DRAWN BY GORDON HEMM.



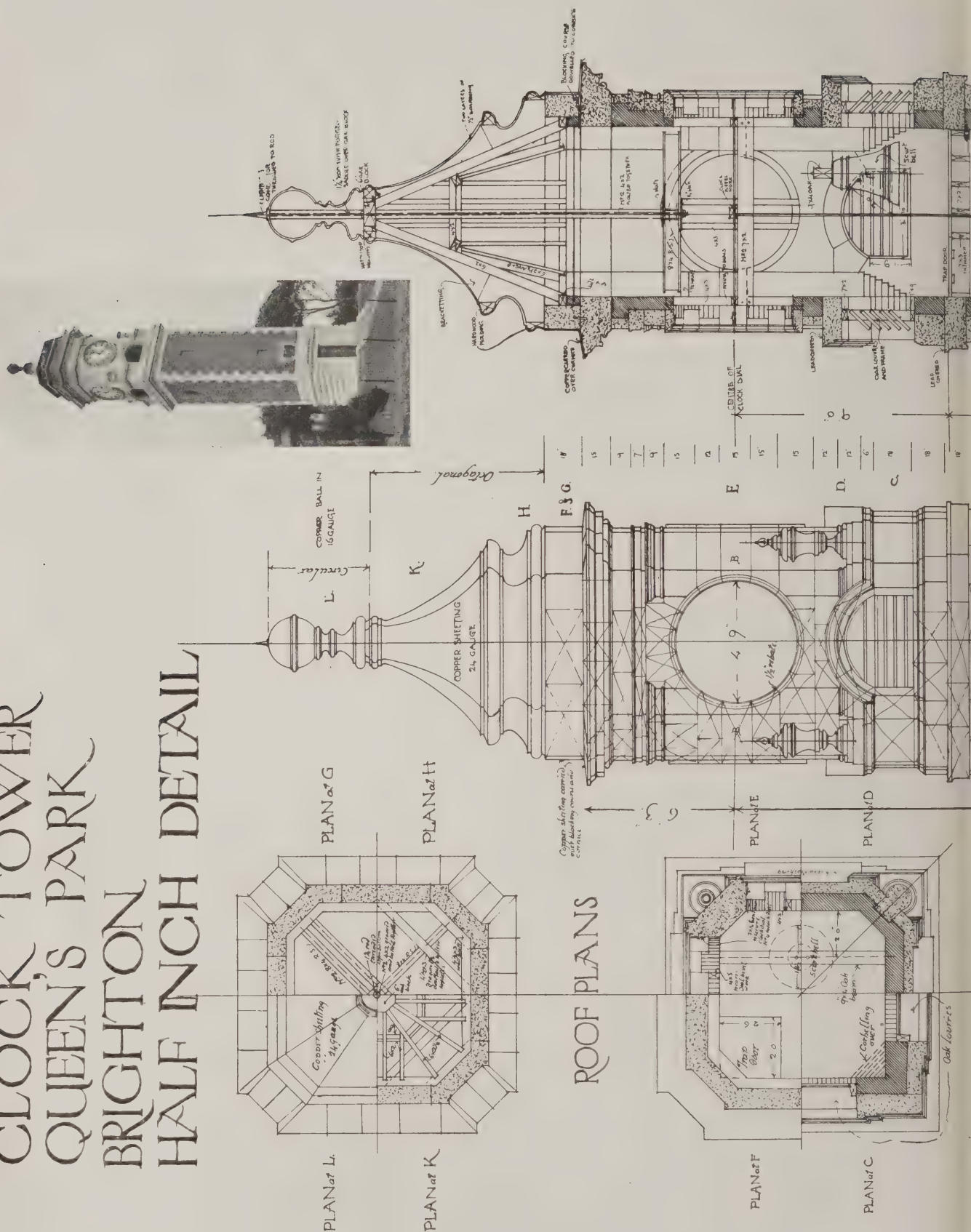
DESIGNS FROM KRAFFT. XII.—MAISON BATAVE, RUE SAINT-DENIS, PARIS.
SOBRE. ARCHITECT.

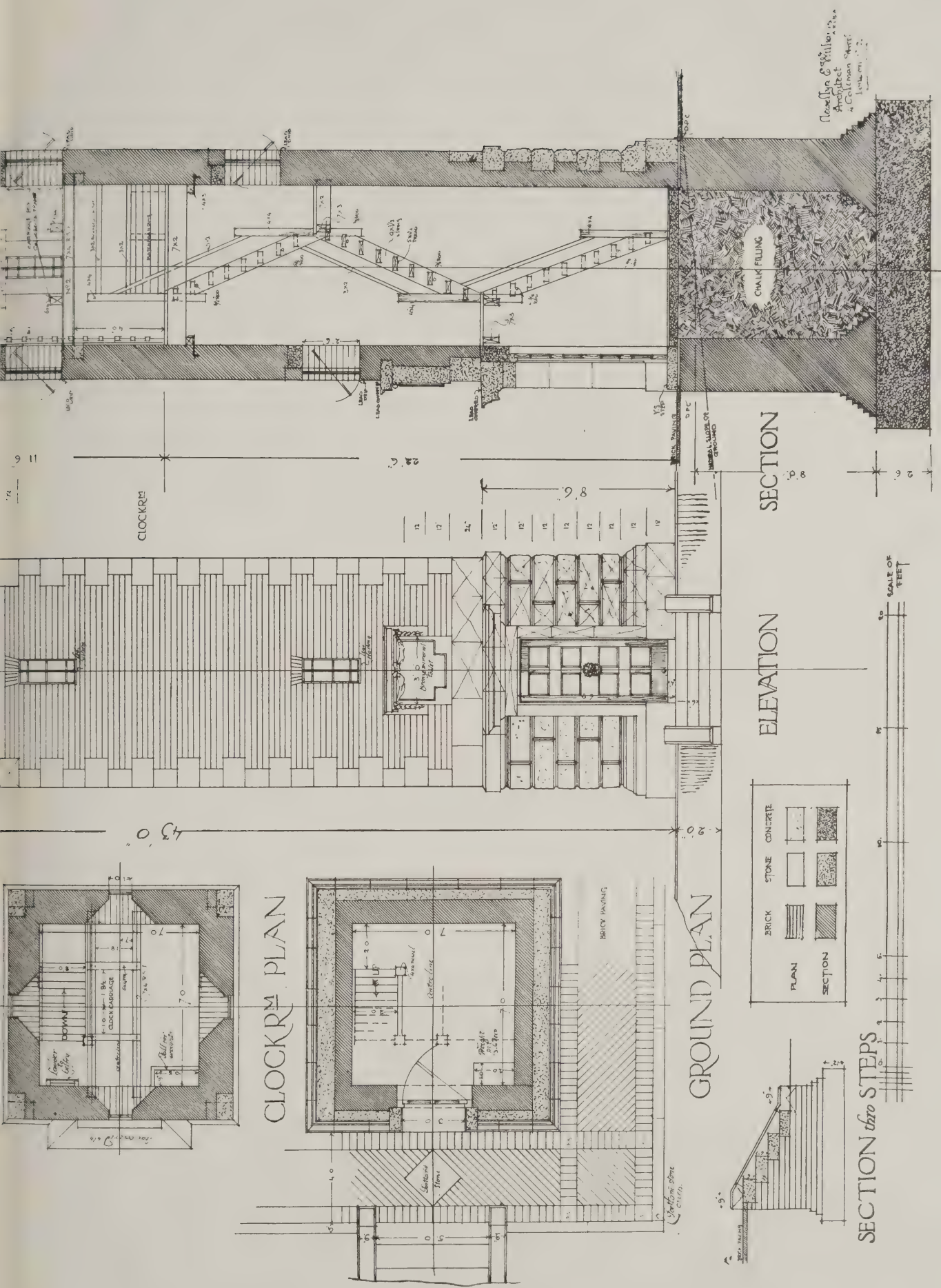


TABLETS AND INSCRIPTIONS. VI.

INVENTION OF ELECTRIC

CLOCK TOWER
QUEEN'S PARK
BRIGHTON
HALF INCH DETAIL





WORKING DRAWINGS BY WELL-KNOWN ARCHITECTS (SERIES II.).

VIII.—CLOCK TOWER, QUEEN'S PARK, BRIGHTON. LLEWELLYN E. WILLIAMS, A.R.I.B.A., ARCHITECT.

LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

THE PLATES.

Residential Chambers, 10, Berkeley Street, London, W.

This design provides double suites of five rooms and a bathroom on each floor, with two shops on the ground floor. It was a condition that each suite facing the gardens of Lansdowne House should have balconies and large windows, and that the same relative importance should be given to every floor, irrespective of level. The usual difficulty of grouping seven storeys in vertical composition has been experienced. Portland stone will be used for the façade as far as the second-floor balcony, and Bath stone for the upper part. The contract has been let to Messrs. W. H. Lorden and Son, of Upper Woking. The architects are Messrs. Richardson and Gill, F.F.R.I.B.A.

Bank of Montreal, Winnipeg.

The chief Canadian banks follow the treatment adopted generally in the United States, inasmuch as they provide a large banking hall with a clear floor space, and employ a large Order to give an effect of architectural dignity. The Bank of Montreal at Winnipeg is an admirable example of this. There is a strong simple character about it which is not often seen in English banks, and whatever may be said about American and Canadian architects having adapted Roman models to modern uses, there is no question that the effect of their work is entirely and scholarly.

Counter Railing, Bank of Commerce, Winnipeg.

In further reference to the subject of Canadian banks, referred to in the paragraph above, it may be noted what excellent grilles and counter railings are provided. The example from the Bank of Commerce at Winnipeg is a typical illustration of what is now being done in Canada, and it has an additional interest as being the work of Mr. Frank Darling (Messrs. Darling and Pearson), who was recently awarded the Royal Gold Medal for 1915.

Mouldings, Manchester Old Town Hall.

These do not call for description, their merit lying in their own good character.

Parisian House from Krafft.

The Maison Batave is one of the most striking of the illustrations of domestic architecture shown by Krafft, in the works he published during the early years of the nineteenth century. The composition is noteworthy for the simplicity of its grouping. This is a scheme for suites of chambers and flats arranged on either side of a courtyard, with shops to the street. The date of erection is earlier than the scheme by Percier and Fontaine for the Rue de Rivoli, but there is a quiet and reasonable expression in the arched shops, the long balcony, the enriched frieze and steep-pitched roof, which is in a measure more convincing than the former example; although the difference in position must be taken into account.

An Eighteenth-Century Wall Tablet.

This, as the inscription records, was erected to a once-married good woman who died in 1731. We regret we have not been able to determine the church in which it is erected, but presumably, by the reference to Sudely, it is in a Gloucestershire church. The rich relief is interesting, but the console at the bottom makes the design too elongated; it would be better away. The lettering is, like most eighteenth-century lettering, very elegant.

Clock Tower, Queen's Park, Brighton.

This has been erected with funds bequeathed for the purpose to the Brighton Corporation by a Mr. William Godley, a life-long resident in the borough, who, after his retirement late in life was, it is said, so constantly asked the time by children playing in the park, previous to their returning home or to school, that he decided to provide what was evidently a public need! Competitive designs for the tower were invited, and from a large number received the design of Mr. Llewellyn E. Williams, A.R.I.B.A., of London, E.C., was selected. The original design was for a tower in Portland stone, but owing to the impossibility of increasing the sum (£1,000) allotted for the work, this had to be modified. Accordingly the tower has been carried out in Sussex red bricks, with Portland stone for the base, quoins, and belfry. It is 11 ft. square at the base and about 65 ft. in height. The roof is covered with copper, and is surmounted by a large ball, also in copper. The entrance has been fitted with a substantial door and frame in Japanese figured oak, with a bronze lion's head and ring centre. The tower has been erected on a sloping site next the East Drive of the park. The clock will not be illuminated at night, and being erected in a residential district is arranged to strike only the hours from seven in the morning till nine in the evening. The dials are about 5 ft. in diameter. The ceremony of dedicating the tower to the public took place on June 24, when the Mayor of Brighton (Alderman J. L. Otter) expressed their appreciation of the architect's design and warmly praised the good workmanship of the builders (Messrs. H. and S. Jones).

THE OLD TOWN HOUSE, DUNDEE.

The Dundee Institute of Architects are taking an active interest in the preservation of the old Town House, Dundee, which is threatened with destruction, and have drawn up and sent to the Secretary of State for Scotland a memorial on the subject.

The memorial, which is signed by Mr. Chas. G. Soutar, the President of the Dundee Institute, and Mr. William Salmond, the Hon. Secretary, states that the old Town House is one of the very few remaining buildings of both architectural and historical interest in the city, and occupies a central and commanding situation on the south side of High Street. With the old Town House the history of the progress of Dundee is inseparably associated. It was erected in 1734 on the site of the fourth Tolbooth of Dundee, which was built about 1563. In 1730 the famous architect William Adam reported that the old Tolbooth was in a dangerous condition, and ought to be removed. At the request of the Town Council he submitted plans for a new Town House, and the building, as we have it to this day, was afterwards erected to his designs. The old Town House is probably the masterpiece of William Adam, and is one of the finest examples of civic architecture in this country. An illustration of this building is included in "Vitruvius Scoticus," the principal record of Renaissance architecture in Scotland. The beautiful proportions and refined details of the façade, together with the grace and dignity of the spire, make the building of very special interest to architects.

In 1913 power was obtained under the Dundee Corporation (Improvements and Tramways) Act to deal with the central area adjoining the Town House, and lying between High Street and Shore Terrace, and from the condition of many of the buildings within that area, and the over-density of the population, it is desirable that some improvement should be carried out.

The plans showed that proposed new streets were to be laid out within that area, and that these new streets would not interfere with the old Town House.

After that scheme had been sanctioned, Sir James K. Caird, Bart., gifted to the community £100,000 for providing a City Hall and Municipal Buildings, and the site selected for these buildings lies to the south of the Town House, and extends along Shore Terrace. In the scheme for the new City Hall, prepared by the city architect, the principal entrance will be from a square immediately behind the Town House, and on a level with High Street, and the east and west sides of this square will be formed by new buildings, containing shops and offices. Entrance from the High Street will be by roadways of about thirty and thirty-seven feet wide respectively on each side of the old Town House.

While the city architect has stated to them that it is not intended meantime to remove the old Town House the memorialists nevertheless submit that in order properly to safeguard the building it should be provided that any scheme for altering or demolishing it should first be definitely laid before the citizens, and that the sanction of H.M. Office of Works, the custodians of ancient monuments, should be obtained.

CIVIC DEVELOPMENT AT CARDIFF.

A DEFINITE decision has now been reached with regard to the proposal to widen Duke Street, Cardiff, the narrow thoroughfare connecting the two main streets of Cardiff and forming the link between the east and west sides of the city. For many years the fact that this problem had to be faced was well known to all those interested in the civic development of Cardiff, and the City Council are to be congratulated on the final solution at which

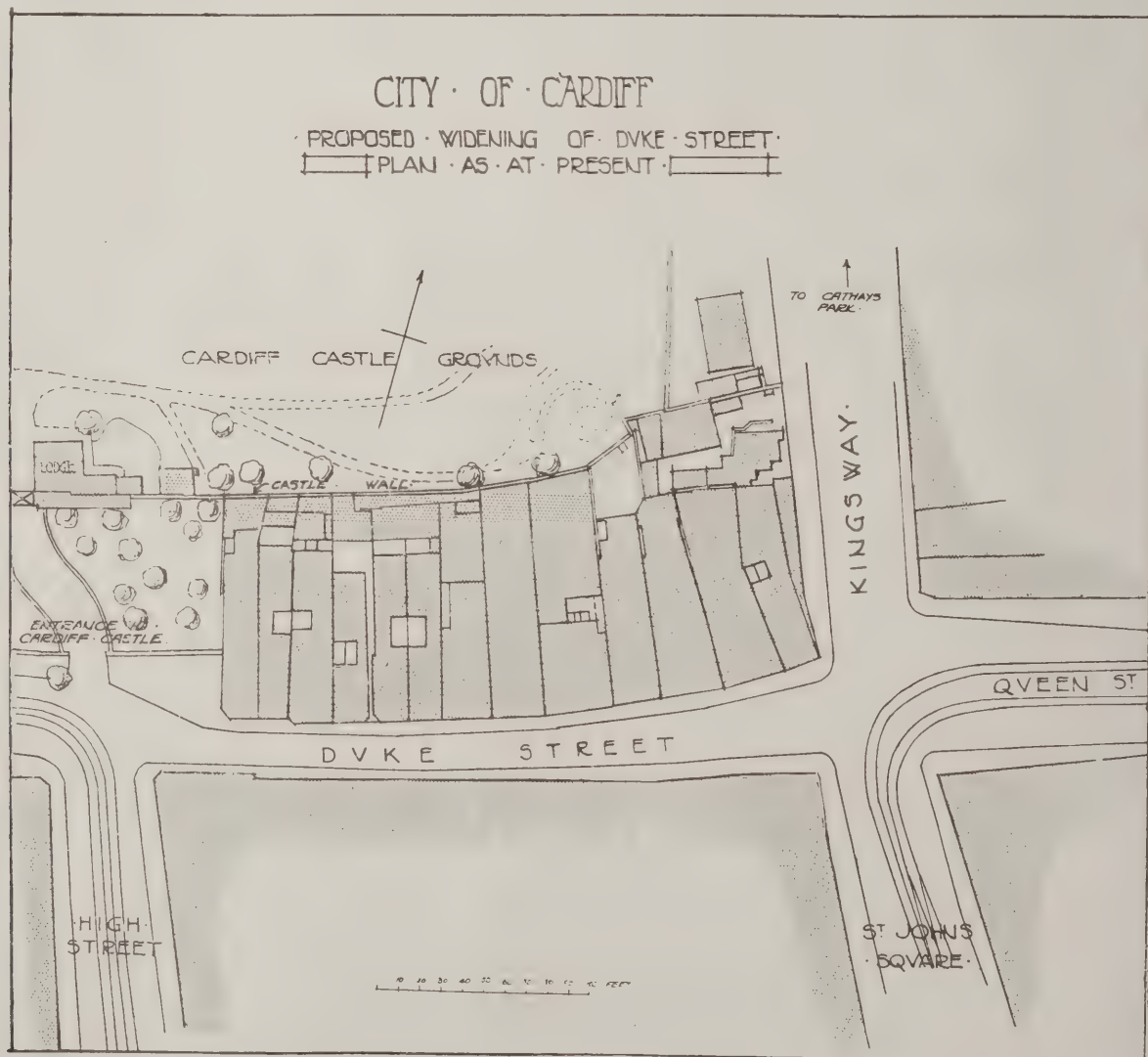
they have arrived. Briefly, there were two schemes before the council, namely: Scheme A, which provided for the widening of the street and the rebuilding of the business premises on the land between the castle wall and the street; and Scheme B, which provided for the demolition of this property and the continuation of the existing castle boundary with a right round Duke Street and Kingsway, with the space between the boundary and the castle wall left open and the castle wall exposed.

Scheme A was based upon the supposition that the surplus land would be sold, thus reducing the capital expenditure to £85,250, in which case the loan charges would amount to £3,768 per annum, or, in the alternative, that the land should be let on lease, thus producing ground rents which, according to the City Engineer's estimate, would amount to the annual sum of £2,363, reducing the annual loan charges to £3,494. The loan charges in this case were calculated on the full estimated capital expenditure of £132,500. The City Engineer estimated that in consequence of the smaller area covered by the new property on the north side of Duke Street there would be a loss in rates for some years of £618 per annum. The total cost therefore would be as follows:—

If the land were sold and developed the annual charges to be borne by the Corporation would be £4,386.

If the land were retained by the Corporation and let on building leases the cost would be £4,112 per annum.

Scheme B provided for the purchase of the property on the north side of Duke Street, and an exchange of land with the Marquess of Bute, together with a payment to him of £10,000, being the difference



in value between the property transferred to Corporation by him and the land to be conveyed him. When these adjustments had been made net capital cost to the Corporation, as estimated the City Engineer, amounted to £85,888. The charges, based upon this, amounted to £3,770 sixty years. To this must be added the estimated loss in rates by reason of the migration of Duke Street tenants to other properties and the changes in tenancy in the centre of the city in consequence of the demolition of the north side of Duke Street. The City Treasurer estimated this at £927 per annum, so that the total cost of Scheme B (the one finally adopted by the Corporation) would be £697 per annum.

Alderman Sir John Courtis, the chairman of the Duke Street Improvement Committee, who had worked so hard to bring this matter to a successful issue, explained that it was the intention of Lord Bute (should the scheme be confirmed by the Council) to erect at his own cost a wall and dwarf wall around the castle similar to the existing wall and dwarf wall in Castle Street, and that the £10,000 mentioned in the clause would be wholly spent by Lordship, together with a further considerable sum, in the erection of such walls and the laying out of the land between them. In a recent interview Lord Mayor and himself had in London with the Marquess of Bute, the marquess stated that, having regard to the great sacrifice which he was prepared to make, it was hardly fair to ask him to forgo the payment of this £10,000, and that if the Corporation could not accept the proposed scheme, which would enable him to carry out the proposal mentioned, he would have to consider it as abandoned and make his own arrangements with regard to the develop-

ment of his Duke Street properties. The marquess could not see his way to approve any other scheme. Sir John added that the properties of Lord Bute in Duke Street were all let on yearly tenancies at what was generally conceded to be considerably under market value, and that if these properties were let upon leases for a given period a considerable sum would have to be added to capital expenditure for the purchase of the leasehold interests, as the present tenants of Lord Bute were not entitled to any compensation whatever in respect of either tenancies or trade interests.

PERCY THOMAS.

CORRESPONDENCE.

Sulphur in Aggregates.

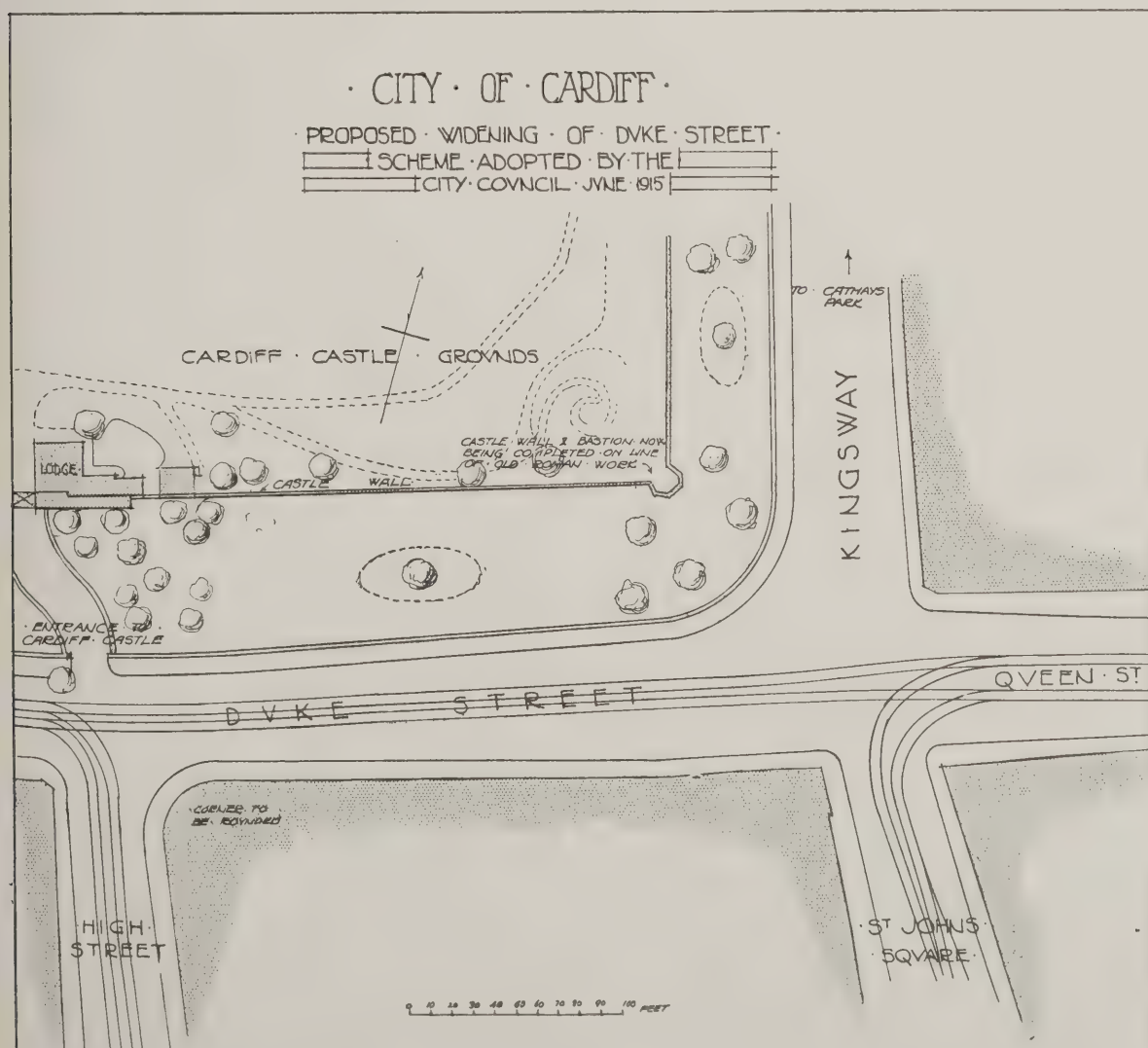
To the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.

SIRS,—I had been hoping to see some reply to the article by Mr. Potter reproduced in your issue dated June 30, page xiv.

Mr. Potter has been fortunate if he has never had any trouble from sulphur in breeze concrete. I can point to two jobs in London where damage from expansion was caused by it. In both cases walls were pushed out of the perpendicular; in both grooves had to be cut through the concrete to prevent the damage growing greater; in both cases there was a strong smell of sulphur when the concrete was cut into.

If breeze concrete is used it should be clean and should be exposed to the air for some time before using, and tests for expansion should first be made.

CLERK OF WORKS.



ENQUIRIES ANSWERED.

Is Lead-poisoning Avoidable?

R. P. (Brixton) writes: "With reference to the proposed abolition of lead-paints, is it not a fact that if house-painters were to keep sober and reasonably clean, very little would be heard of their suffering from lead-poisoning? And is it not also true that deaths from other causes—such as alcoholism—are often wrongly attributed to lead-poisoning?"

—We believe that there is very much force in this contention. Dr. King Alcock, quoted by Dr. Thomas M. Legge and Dr. Kenneth W. Goadby, in their work on "Lead-Poisoning and Lead Absorption," pleads "for an impartial investigation of the symptoms presented by a lead-worker, before assigning full or even partial responsibility of the disease to the occupation. If any and every departure from the normal in a lead-worker is at once assigned—the occupation being known—to plumbism, early diagnosis naturally presents very few difficulties to the exponents of such methods." The authors themselves say that "very real difficulty exists in determining from naked-eye appearances at a post-mortem examination whether the cause of death be due to chronic plumbism or not. The changes produced by several other forms of intoxication, notably chronic alcoholism, produce many of the same changes in the tissues as lead. Inspection of the organs in the case of plumbism can only give rise to a surmise that death is due to lead-poisoning." This is a very direct answer to one of the questions asked by our correspondent. As to the other question, we can only say that in our opinion the few cases of lead-poisoning

which have come under our observation have been traceable in every instance to want of personal cleanliness on the part of the sufferer.

Roof Timbers for a Public Hall.

W. (Yorkshire) writes: "Please supply an answer to the following question:

"The illustration is a key plan of a public hall, the figures being internal dimensions. [Not reproduced; but is included in the 'General Plan' in the illustrations forming the reply.]

"Draw to scale 8 ft. to an inch a plan showing the general arrangement of the roof timbers.

"Also draw to scale 2 ft. to an inch, transverse sections AA and BB, of an open timber roof at an angle of 45 degrees.

"The principals to be without ties at the lower part; columns are not allowed, but wrought iron straps and steel rods may be used in connection with the timbers. Figure all scantlings.

"Assume substantial walls on every side and a uniform level for the springing of the roof."

—To this question the accompanying illustrations form a sufficient reply. The character of the diagram to which the querist refers is indicated in the diagrams which form the solution. This querist, and others whom it may concern, are informed that we do not care to deal with examination questions. G.

Provisional Sums in Contract.

RETAU (Hull) writes: "Please supply an answer to the following question on provisional sums: "A provisional sum of £200 is provided, in a building contract, for a heating installation, and the contract also

provides that the builder is to include in estimate the sum of £160 net, to be paid to a certain firm for wood block flooring, and that the builder is to add for packing, etc.

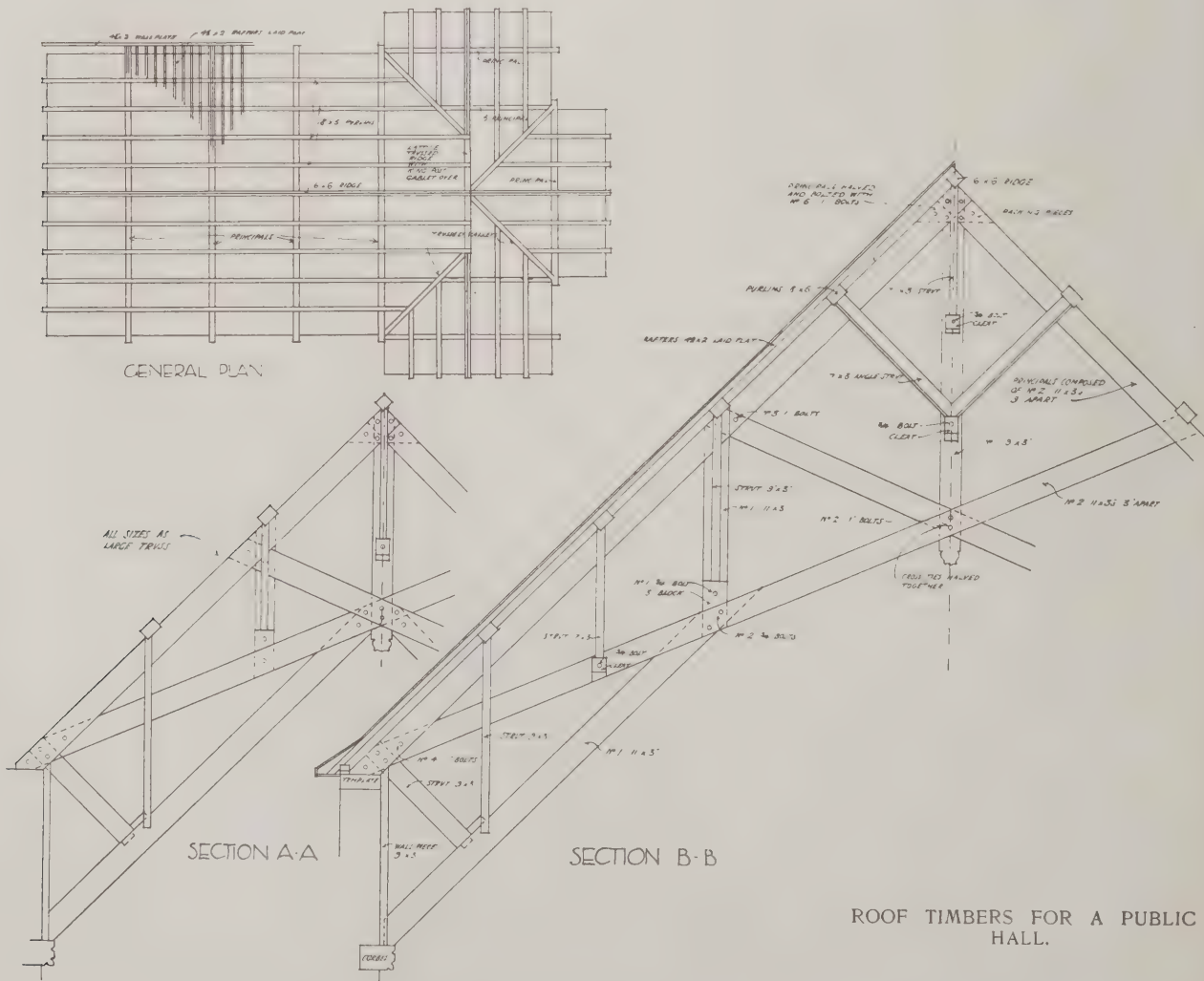
"At the end of the job it is found that £180 has been paid to the heating firm and £175 to the wood block firm. How would you deal with the two items in account?"

—The value of the works executed has been ascertained as stated, the amount paid by the contractor to the firms in question, with an allowance pro rata for contractor's profits at the rates contained in his original estimate, are set against net provisional sums and profits added to original estimate, and the balance in case added to or deducted from the contract sum. Thus:—

	Add.	£	s.
Expended on Heating Installation		180	0
Profit		18	0
Expended on Block Flooring		175	0
Profit, etc.		17	10
		£390	10

	Omit.	£	s.
Provided		200	0
Profit added in original estimate		20	0
Provided		160	0
Profit, etc.		16	0

	£396	0
Deduct amount of addns.	390	10
Balance as omission to general account	£5	10



ROOF TIMBERS FOR A PUBLIC HALL.

SPECIAL LAW REPORTS.

Construction of the London Building Acts

Akers and Co. v. Daubney.

July 20. King's Bench Division. Before the Lord Chief Justice and Justices Darling and Lush.

This was an appeal by Akers and Co. from an order of the magistrate under the London Building Acts, 1894 to 1899.

Mr. Bodkin, appearing for the appellants, said the case raised the question whether a district surveyor in London was, in the circumstances of the case, entitled to any fees under Schedule 3 of the London Building Act, 1894. It also raised a question whether a certain building which had been erected as an addition to an elementary school, was a new building within the provisions of the Act, 1911, Section 3, and whether, if the building was a new building, the surveyor was entitled to receive fees in respect of alterations and additions to the school. The special case stated that the appellants were building contractors to the London County Council as an education authority, and the respondent was the district surveyor for Bermondsey. The work done was the extension to the infants' department of the Southwark Park School, Bermondsey, which consisted of the re-modelling of the infants' department by adding another storey to the building and putting windows in the roof. The appellants were first summoned for having done the work without serving the district surveyor with the usual notice. Appellants then argued that the work done did not constitute a "new building," and a notice was not necessary. The magistrate at the Tower Bridge Police Court held that the work was additions and alterations, and not a new building, and also held that the notice should have been served. The appellants were then summoned for £7 6s. 3d., which the district surveyor claimed as his fees. The appellants then argued that the building was a new building within the meaning of Section 5, Sub-Section 6 of the London Building Act, 1894, and it was therefore not within the jurisdiction of the district surveyor, to whom no fees were payable. The magistrate held that the building was not new, and that the surveyor performed certain duties for which he should be paid. After hearing Mr. Daldy for the respondents, the court dismissed the appeal with costs.

The Lord Chief Justice said he was unable to find anything in the statute to prevent the magistrate from directing that the alterations in the building did not constitute a new building. In fact, the Court sought on the evidence the magistrate could find that the building was not a new building within the meaning of the Act. He had also correctly found that the surveyor was entitled to his fees.

Deductions from Payment for Work Done.

Powdrill v. Tipton Urban District Council.

July 14. King's Bench Division. Before Justices Darling and Coleridge.

This was an appeal by the Council to set aside a judgment of the official referee in favour of the plaintiff for £431. (See our issue of May 19, 1915, p. 238.)

Mr. Powdrill, a contractor of Luton, was the assignee of the original contract of the Council, with Messrs. Thompson and Shirley, to execute certain sewerage works at Tipton, and the matter arose out of certain payments made to the Birmingham Canal Company, for drawing off the

water from their canal while sewer pipes were being carried across it.

Mr. Disturnal, K.C., argued the case for the appellant Council. He said the case for the appellants was that on the true construction of the contract Mr. Powdrill was (1) not entitled to these sums which had been awarded by the referee; (2) that he could not recover any sums due under the contract at all without the engineer's certificate, which he had not obtained for any of these sums; and (3) that, on the settlement of accounts between the parties the money in question was deducted by agreement, and this was accepted by Mr. Powdrill as a settlement of the matter in dispute.

Mr. A. A. Hudson, K.C., for the respondent, contended that the allegation as to defective work was an after-thought and raised at the eleventh hour. With regard to the claim in respect of payments to the Canal Company, he maintained that all the agreements were entered into between the Council and the company, without any regard to the contractor, who could not be held liable under the circumstances for any of the money paid to the company.

The Court allowed the appeal as to £225 of the amount, and as to the balance, £206, that was to remain as ordered by the official referee, viz.: to go to the plaintiff. Judgment was then entered for the Council for £225, and for Mr. Powdrill for £206. No costs.

Building By-Laws: Right to Remove Building.

Andrews v. The Wirral R.D.C. and another.

July 8. King's Bench Division. Before Mr. Justice Atkin.

His lordship delivered his reserved judgment in this action, which concerned the local council's right to remove a bungalow from a field and destroy it. His lordship explained that Mr. Arthur Andrews sued the Wirral R.D.C. and Mr. Wm. Shennan, their surveyor, for damages for wrongfully seizing and destroying a van belonging to the plaintiff. The defendants said that the object was a building within the meaning of the Public Health Act, 1875, and their by-laws, and this having been constructed contrary to the provisions of the by-laws, they were entitled, under their powers, to destroy the building. The question his lordship had to determine was whether that was right or not. It was a bungalow constructed in a field in the council's district and occupied in 1914. It had been held that this and other bungalows were not a nuisance. The bungalow had changed hands since its erection and in January, 1914, the council decided that they would destroy it on the ground that that was within their powers under the by-laws. Later the bungalow was pulled down. The question that now arose was whether the council had the right to pull down the structure under their by-law. It was contended that it was constructed in violation of the by-laws, as it was a "new building." He came to the conclusion that the defendants had failed to show that they had complied with the necessary provisions of the by-law entitling them to pull down the building. The result was that the defendants were unable to justify the destruction of the building owing to their failure to show that they had complied with the provisions of their by-laws. The question that arose, therefore, was one of damages, and he estimated the value at £20. Judgment for the plaintiff for £20, with costs, except as to the costs on one issue.

NEWS ITEMS.

Change of Address.

Mr. J. Craddock Perkin, F.R.I.B.A., has removed from 181, Queen Victoria Street to 62, Moorgate Street, E.C. New telephone number: London Wall 2955.

Norman Work Uncovered at Wargrave.

Wargrave Church, which was destroyed by fire by militant suffragists on June 1, 1914, is being rebuilt. In restoring the tower the interesting discovery has been made that the present casing of red brick covers the original Norman tower. Under the chancel have been discovered vaults, of which no mention is made in the church records.

Housing Scheme, Dudley.

Dudley Town Council has decided to purchase fifty-five acres of land from the Earl of Dudley at a cost of £14,000, for the purpose of a housing scheme. The chairman of the Housing Committee said that the Local Government Board in a recent report had charged the council with neglecting its duty. The question had been before the town for twenty years.

Labour Organisations Unite.

The United Builders' Labourers' Union and the United Order of General Labourers have joined forces under the title of The Builders' Labourers' Society of Great Britain. The amalgamation brings 20,000 men into the new organisation, making it the strongest builders' labourers' society in the country. More than 3,000 members of the new union are serving in the army in various capacities.

Lanarkshire Housing Schemes.

The Middle Ward Committee of the Lanark County Council has embarked upon two cottage housing schemes for the working classes at Cleland and Harthill in connection with the town-planning areas which have been mapped out. At each place it is intended to build 100 cottages, eleven to the acre, of two, three, and four apartments respectively, with scullery, pantry, and bathroom attached, and with a front and back garden in each case. Several of the houses are now occupied, while the construction of the others is being hurried on. The cottages are built in blocks of two, and the rents vary from £13 to £13 13s.

Visit to Ilkeston Secondary Schools.

At the invitation of the architect to the Derbyshire Education Committee, Mr. G. H. Widdows, F.R.I.B.A., the members of the Nottingham and Derby Architectural Society paid a visit to the Secondary Schools at Ilkeston. The party numbered about thirty, and included two Belgian architects who seemed much interested. Mr. Widdows conducted the party over the building, pointing out the special points in the planning in order to obtain thorough-ventilation without draughts, as well as efficient lighting in every part of the classrooms. Even the classrooms have their own individuality in the finish of the decoration on the walls, and the fittings throughout have been selected with a view to perfect efficiency. The head master's room is in telephonic communication with all the classrooms. Hot and cold water are laid on to the numerous lavatory basins, and by an arrangement of the heating pipes in the cloak-room every child's clothing and shoes are dried and warmed ready for use. Mr. Widdows concluded his description by the practical demonstration with a smoke test of the perfect ventilation of one of the rooms. The presi-

dent of the society, Mr. Harry Gill, thanked Mr. Widdows for inviting them over and describing what they had seen. Mr. Watkins, vice-president, also spoke, and in his reply Mr. Widdows invited the society to visit some of his later schools, which possessed unusual features.

Ordnance Survey of Ireland.

In the report of the progress of the Ordnance Survey to March 31, 1915, it is stated that the publication of the 1/2,500 survey of Ireland was completed on August 31, 1914. This survey was begun in 1887, and thus took twenty-seven years to execute. The area of Ireland is 32,400 square miles, and the average outturn per annum was 1,200 square miles. The total cost was £1,400,000, and the average cost per annum was £51,850, and per square mile £43. These figures include the cost of all field work and of the levelling, of printing and publication of both 1/2,500 maps and 6-inch maps, and the delineation of boundaries and sites of antiquities. "Ireland is now provided," says the report, "with a first-class large-scale survey which only needs periodical revision to continue indefinitely to meet all the needs of the public and of the Government." During the year, experiments were continued with a view to the production of a new type of half-inch map.

"HOW TO DRAW ARCHITECTURE."

Under this title Mr. Robert Atkinson, A.R.I.B.A., has a luminous article in the periodical called "Drawing." He illustrates it with his masterly pen drawing of Eyford Park, Gloucestershire, of which Mr. E. Guy Dawber was the architect. From Mr. Atkinson's article we extract a few pithy paragraphs, but we strongly recommend that the article should be read as a whole in "Drawing."

The laborious acquisition of good draughtsmanship, Mr. Atkinson contends, is invaluable in instilling the rudiments of taste, proportion, restraint, and many other qualities which would otherwise be neglected, but which are essential side issues of draughtsmanship.

Designs may be called the expression on paper of voids and solids drawn in such a way as to convey an intelligible impression of the ultimate building. To achieve this result rapid and accurate drawing of ornament and features is necessary. The feeling of the design can only be properly judged when the whole of the ornaments are placed in proper juxtaposition. Many such drawings may be necessary, and though each may be no more finished than the first, a gradual feeling will develop that the voids and solids are right, and that the ornament is right.

These drawings must be rapid and clear, and indication plays a great part in their preparation. When the feeling is right, more careful drawings are necessary. They are not wasted labour, but are made to satisfy the canons of taste, and should be masterpieces of rendered drawings, showing all lights and shadows. Even the most minute mouldings or ornament may be too coarse or too light; their value can only be judged by careful projection of cast shadows in their relation to the general effect of the whole.

Since the introduction of photographic reproduction, draughtsmanship has developed more on the lines of washes for indicating voids and masses. This has been carried to great lengths in the Ecole des Beaux Arts and in America, although of necessity limited to monochrome.

English architectural draughtsmanship,

which under the eighteenth and nineteenth century masters had developed ahead of Continental work, received its death-blow at the hands of the Gothic revivalists, who reverted, under pressure of thoroughness or sentimentalism, to the methods of mediæval draughtsmen. Masses and shadows were never indicated, and for Gothic work would be of little use. From the despised draughtsmen of this period we nevertheless received a great legacy in the revival of the representation of buildings in perspective, which is such a feature of early Italian paintings.

A modern school of architectural draughtsmen is now arising who hope to revive the ancient glories of drawing, and are not satisfied with a perspective unless it is perfectly drawn, perfectly rendered, beautifully designed, and all sculpture or coloured decoration fittingly suggested.

VENTILATION OF CINEMA THEATRES.

Mr. James Bishop, Sanitary Inspector to the Burgh of Leith, shows in his annual report that practical steps have been instituted by this sanitary authority to compel the remedying of insanitary conditions in theatres and picture houses. Mr. Bishop's report on the subject is as follows:

"A complaint having been made as to the impure state of the atmosphere in one of the picture-houses, it was decided to take the opportunity of testing the air in all theatres and picture-houses in the burgh. I arranged with the Public Analyst, Mr. Scott Dodd, B.Sc., to meet me on two evenings in the months of February and March, and together we visited the various places of amusement. Mr. Scott Dodd made the necessary tests. The method adopted consisted essentially in passing a known volume of air through a measured quantity of a standard solution of alkali. This standard solution is made with sodium carbonate, specially prepared carbon-dioxide-free distilled water, and phenol phthalein. The latter is a complex organic compound, and acts merely as an indicator, being pink when in alkaline and colourless when in neutral solution. Five places were visited in all, and tests were made in different parts of the various buildings, with the following results:

House.	No. of tests.	Place where test was made.	Parts carbon dioxide per 10,000 parts of atmosphere.
A	1	Pit	7.42
	2	Circle	8.70
B	1	Dress circle	10.00
	2	Gallery	21.00
	3	Upper box	13.50
	4	Lower box	11.50
C	1	Pit	9.00
D	1	Gallery	9.50
	2	Gallery	18.00
	3	Pit	13.50
E	1	Gallery	20.00
	2	Pit	9.00

All authorities are agreed that when the amount of carbon dioxide in the air of a room, hall or theatre has been increased by respiration to 6 or 7 parts per 10,000 of atmosphere, organic matter is present in an injurious quantity. The foregoing tests show that the above limit was exceeded in every case, and as houses B, D and E were very much worse than A and C, the occupiers of the former were communicated with, and asked to take immediate steps not only to ensure that the means of ventilation in their respective places of amusement were adequate to keep the air therein in a reasonable state of purity, but also to make certain that the ventilating appliances were kept in full operation during and between all performances. House D, in connection with which the complaint

already referred to was made, was closed shortly after the test was made, and has not been reopened since.

OLD ENGLISH MANSIONS

In his sprightly introduction to the part that form the substance of the "Spring Number of the 'Studio,'" Mr. Alfred Yockney throws out the useful suggestion that "if the stones, bricks and timbers of ancient secular edifices could speak they would wish us to believe as human beings do, that their early work was the best. . . . It would be naïve that the structure itself, given the power to absorb impressions, would look back to its earliest and most useful existence with the same feeling of regret experienced by people in maturity or old age"; also, shuddering to its probably shallow foundations when the thundering motors of the past, it must sigh for the days when lusty youth was not subject to such shocks but was better able to endure them. The old houses must be remote from main travelled roads if they are to escape broken and shaken to pieces.

Mr. Yockney, sketching with a deft hand the architectural history relevant to "Old English Mansions" depicted by J. Richardson, J. D. Harding, John Nash, H. Shaw, and others, proves many an example that if the buildings could speak they, being now in their dotage, could tell us many a lively many a tragic story. But it is mainly upon their appearance that the mansions have been depicted, and such shreds of patches of mere history as Mr. Yockney has attributed to them may not enhance their architectural value, but certainly not diminish it. He is an adept at agreeable gossip, imparting solid information that takes us unawares.

His subjects, indeed, are rich in story for he writes of Hampton Court, Chesham Hall, Haddon Hall, Hardwick Hall, Dudley End, Sutton Place, Kenilworth, Montacute, and a score of other houses whose very names conjure up more or less vivid pictures of the past. Brief particulars of the artists who made this collection possible are supplied, and from these it appears that the chief contributors were architects. C. J. Richardson, for example, who is the author of more than thirty of the plates, was articled to John Soane. Like some distinguished architectural draughtsmen of to-day, he preferred depicting to designing. He was born in 1806 and died in 1871. John Nash (1808-78), whose painting of the entrance gateway to the first court of Hampton Court Palace has been reproduced in colours as a frontispiece to the volume, was trained in the office of elder Pugin; and other architects whose drawings are included are Thomas Allcock (1804-72), whose drawing of Haddon Hall is set in a fine Constable-like landscape, and Ewan Christian (1814-95), who signed the National Portrait Gallery, in 1887 was awarded the Royal Gold Medal.

Most of the plates—nearly all, in fact—possess a full measure of architectural interest. Exteriors, interiors, and details are limned with architectural feeling, especially when C. J. Richardson (who, as we have said, did most of them) is the artist, or, consequently the architect in search of inspiration from early examples will find in this volume a veritable treasure-house which it were crass folly to neglect.

*Old English Mansions. Depicted by C. J. Richardson, J. D. Harding, Joseph Nash, H. Shaw, and others. Edited by Charles Holme. "The Studio" Ltd., London, Paris, New York. 5s. net.

ELECTRICAL NOTES.

New Half-Watt Lamps.

was predicted in these columns when the half-watt lamp was introduced, the makers are "letting down" the stationers by easy stages, by gradually putting on the market of this description of lower candle-powers. The first were of such high candle-powers that they were only suitable for outdoor lighting, or for indirect lighting of large rooms. Now the British Thomson-Houston Co., the Edison & Swan Co., the General Electric Co., and Siemens Brothers & Co. Works have simultaneously introduced new types, some of which will be suitable for domestic purposes. As usual, they are standardised by the watts consumed, but as the candle-power is approximately double the wattage, the following may be taken as the lowest candle-power lamps of the new series:—

25 volts, 30, 60, and 120 candle-power.

50-65 volts, 60 and 120 candle-power.

100-130 volts, 120 and 200 candle-power.

200-255 volts, 200 and 300 candle-power.

Prices of these vary from 4s. 6d. to 16s. 6d., and show considerable reductions compared with previous prices. With the introduction of 300-candle-power lamps and upwards, all are provided with bayonet-caps, which is a convenience for domestic use, in fact a necessity.

It is stated that the smaller sizes are filled with argon gas, presumably the larger sizes with nitrogen, as before. The makers will appreciate the fact that the lower half of the lamps are sold at a price obscured free of charge if desired, and that sound quality is guaranteed for any quantity. There should be a good demand for the 100-volt, 120-candle-power lamp and the 200-volt, 200-candle-power lamp for domestic lighting with indirect light—but the largest demand will probably be for the 25-volt, 25-candle-power lamp for country house plants. It must be remembered that for these lamps there will be a saving of about 100 per cent in current for equal light generated, compared with ordinary metal filament lamps.

Ediswan Dimmer Switch.

A new pattern switch of this type has been introduced by the Edison & Swan United Electric Light Co., Ltd. It is supplied in a neat metal case with tumbler handle, having three positions. It may be used either to dim light in sick rooms, hospitals, etc., or to start and regulate an Ediswan fan. In the former case a 30-watt metal filament lamp runs down to 1-candle power or a 40-watt lamp to 5 candle-power. In the latter case the fan can be reduced to half-speed. The initial cost is, it is claimed, soon repaid by the economy of electricity, and the switch may simply be substituted for an ordinary point switch.

The Magic Auto-Cleaner.

The latest in electric suction cleaners has been put on the market by Magic Appliances, Ltd., of Farringdon Avenue, E.C.4, in the shape of a small apparatus which may be held in the hand and only weighs 6½ lb. It consists of an aluminium cylinder containing a high-speed fan motor consuming 60 watts, a nozzle underneath, a "dustpan handle" at the side, and a dust-bag at the bottom fitted to the outlet by a bayonet joint.

It is intended for cleaning of upholstery, cushions, books, etc., which are not always conveniently dealt with by vacuum machines. If the nozzle is removed, fluff and dust surging buttons on upholstered work can be collected, whilst the dust-bag is detached the apparatus can be used as a blower. The whole apparatus, complete with flexible cord and adaptor, costs five guineas, and is made throughout at the company's works.

The "Quead" Electric Fire.

At present there is nothing new in the principle of electric heating, but a new principle is likely to be discovered with a greater efficiency than that which can be obtained by present methods. A considerable advance has of late been made in the design of electric fires and the application of the principle of electric heating to different forms of elements. The "Quead" elements are circular porcelain reels, slipped on an iron rod and clamped at each end from both ends. They are about 2-in. diameter, with a flange extending about half-way round, and are wound with a spiral of nichrome wire between the flanges, so that the whole of the glowing element is in the front. The porcelain acts as a heat reflector and the whole combination is claimed to give a large proportion of radiant heat. Renewals of the elements can be effected easily and quickly, the only part requiring replacement being the nichrome spiral. The "Quead" fire is claimed to be exceedingly robust and capable of rough handling. An artistic range of cases in copper and brass, or black steel sheet, and cast iron, has been designed, and these are arranged singly or in sets, as may be required. They may be inspected at the premises of the makers, Messrs. Eads, Ltd., of 47-57, Marylebone Lane, W.



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COMPETITIONS.

Louth County Council Offices, Dundalk.

Professor W. A. Scott, F.R.I.A.I., the assessor in this competition, has made the following awards: (1), Messrs. O'Callaghan and Webb; (2), Messrs. Batchelor and Hicks; (3), Mr. Thomas J. Cullen—all of Dublin. The building is to cost about £6,000.

LIST OF COMPETITIONS OPEN.

No DATE. — HOSPITAL, GALEMIRE (WHITEHAVEN).—The Galemire Joint Hospital Committee invite designs for a small hospital proposed to be erected in their district. Full particulars may be obtained from Mr. E. B. Croasdel, Clerk to the Committee, Union Hall, Whitehaven.

No DATE.—BUSINESS PREMISES, PLYMOUTH.—The Plymouth Mutual Co-operative and Industrial Society invite designs for business premises to be erected in Frankfort Street, Plymouth, on a site containing about 24,000 sq. ft. Premiums of £75, £50, and £25 for designs placed second, third, and fourth. A plan of the site, and particulars, prepared by Mr. Paul Waterhouse, M.A., F.R.I.B.A., the assessor, can be obtained from the General Secretary, Plymouth Mutual Co-operative and Industrial Society, 15 to 18, Frankfort Street, Plymouth. Deposit 5s.

SITE OF "THE THEATRE," SHOREDITCH.

The Local Government, Records, and Museums Committee of the London County Council have for some time had under consideration a suggestion that a tablet should be erected on the wall of the Curtain Road School, Shoreditch, commemorating the fact that "The Theatre," which was the first building erected in London specially for the performance of plays, was situated within a few yards of that spot. The present generally accepted theory of the position of the site of "The Theatre" is demonstrably wrong, and the position of the site, so far as it is ascertainable, has involved a large amount of original research on the part of Mr. W. W. Braines, an officer in the department and acting under the direction of the clerk of the Council. With the result of these investigations before them, the committee have arrived at the conclusion that a tablet should be erected by the Council to commemorate the site, but in view of the necessity of restricting expenditure at the present time, they have postponed submitting a recommendation on the matter until after the conclusion of the war. They think, however, that as other investigators are at work on the subject, it is desirable that the result of the investigations made on behalf of the Council should be recorded, and they accordingly give a brief description of them.

"The Theatre" was built by James Burbage on a portion of the precinct of the (dissolved) Priory of Holywell, which he obtained on lease from Giles Allen in 1576. In the last quarter of the sixteenth century a continuous strip of ground within the site of the precinct was occupied by the various properties, reckoning from south to north: (i.) the garden wall of property belonging to a Mrs. Askew; (ii.) the barn in the occupation of the Earl of Rutland; (iii.) a piece of "void ground," a matter of dispute between the Earl of Rutland and Giles Allen, but which was finally left in the Earl's hands; (iv.) the Great Barn, belonging to Giles Allen; and (v.) "The Theatre," shored up

against the Great Barn. The sites of these properties have been identified.

The wall of Mrs. Askew's property and the Earl of Rutland's barn lay in a line along the southern frontage to Wood's Buildings as it existed before the formation of Great Eastern Street in 1876. The whole of the space between Wood's Buildings and New Inn Yard was formerly held by the Earl of Rutland, and is the site of the "void ground." The ground to the north of (iii.) belonged to Giles Allen, and the Great Barn was situated there. Its southern edge ran along either the old southern line of New Inn Yard (assuming that the yard did not exist at the end of the sixteenth century) or, much more probably, along its old northern line, 10 ft. south of the present northern line (assuming, as is almost certain, that the old 10-ft. wide New Inn Yard was then in existence). The Great Barn was 24 ft. wide, and its northern edge was 14 ft. north of the present New Inn Yard. The southern edge of the theatre was approximately 20 ft. north of the existing north frontage of New Inn Yard (allowing 6 ft. interval between "The Theatre" and the Great Barn).

The latitude of the southern edge of "The Theatre" is therefore ascertained with only two slight possibilities of error, viz.—the uncertainty as to the date of formation of New Inn Yard; and the exact distance between "The Theatre" and the Great Barn. The maximum limit of error may be regarded as 15 ft. The longitude cannot be ascertained with precision, but the site is limited to the area contained between Curtain Road and a point about 135 ft. to the east of it.

The size of "The Theatre" is not known, but it must have been at least 60 ft. across. On this assumption, its northern edge was within 40 or 50 yards, according to longitude, of the entrance to Curtain Road school.

BUILDERS' BENEVOLENT INSTITUTION.

The sixty-eighth annual general meeting of the Builders' Benevolent Institution was held at Koh-i-Noor House, Kingsway, W.C., at 4 p.m. on Wednesday, July 21st, 1915. The minutes of the last annual general meeting were read and confirmed, and the following annual report was read and approved, as were also the audited accounts for the past twelve months.

"In submitting its sixty-eighth annual report, the Committee of Management desires to express its deep regret at the continuance of the war, and, at the same time, to mark its appreciation of the action of our President (Mr. George R. Holland) and the members of the Committee who are serving in His Majesty's Forces. The past year has been an exceptionally trying one for this charity, as it, in common with other institutions, has experienced the loss of much support in consequence of the numerous appeals made to meet national needs. The Committee deplores the death of Sir Arthur Charles Lucas, Bart., who for many years was a generous contributor to this institution and one of the trustees. During the past year two men and four women have been added to the pensioners' list, which now includes twenty-seven men and thirty-three women. During this period five male pensioners died. The institution is greatly indebted to those old friends of the charity who so generously supported the treasurer's appeal last November. The amount received saved the Committee from the necessity of realising any invested capital, and so re-

tained the financial position acquired during the past sixty-eight years. The Committee tenders its hearty thanks for their kind assistance to the Trustees (Mr. F. J. Dove, Mr. Frank May, J.P., Mr. Thos. F. Rider, Mr. T. Stirling, and Mr. J. T. Bolding) and to the Honorary Auditors (Mr. J. T. Bolding and Mr. Hubert S. Ward, F.C.A.)."

The following elections of officers took place:—President: Mr. George R. Holland (Messrs. Holland and Hannen and Cubitts, Ltd. (re-elected). Treasurer: Mr. Frank May, J.P. (Messrs. Holland and Hannen and Cubitts, Ltd.) (re-elected). Committee: Mr. H. Arthur Bartlett (Messrs. Perry and Co., Ltd.), Mr. Thomas Hall (Messrs. Hall, Beddall & Co.), Mr. Benj. Hannen (Messrs. Holland and Hannen and Cubitts, Ltd.), Mr. J. Nicholson (Messrs. Jenson and Nicholson Ltd.), Mr. Hy. Holloway, J.P. (Messrs. Holloway Bros., Ltd.), Mr. J. W. Lord (Messrs. W. H. Lorden and Son), Mr. F. G. Rice (Messrs. Rice and Son), Mr. Wm. Shepherd (all re-elected). Honorary Auditors: Mr. John T. Bolding (Messrs. John Bolding and Sons, Ltd.), Mr. Hubert S. Ward, F.C.A. (Messrs. R. Ward and Sons). Votes of thanks to the President, Treasurer, Trustees, and Committee of Management closed the meeting.

Degree and Other Awards in Architecture at Liverpool University.

At the conferment of degrees, diplomas, and certificates of the University of Liverpool, on July 10, Robert Stanley Dixon and Frederick Orchard Lawrence were admitted to the degree of Bachelor of Architecture. This is the first occasion on which the degree of "B.Arch." has been conferred in this country.

Certificates in Architectural Design were awarded to Sidney Colwyn Foulkes, Hubert Gregory, Gordon Hemm, and James Vincent Hull. Certificates in Architecture: Class 1, Alfred Bradshaw Bost Jopling, and Thomas Andrew Sanders; Class 2: John James Williams.

Scholarships and prizes in the School of Architecture of the University of Liverpool have been awarded as follows: H. Travelling Scholarship in Architecture: A. B. B. Jopling. Lever Prizes in Architecture: 1, J. V. Hull; 2, A. B. B. Jopling.

Action against the Institution of Civil Engineers.

On July 20, the Court of Appeal, comprising the Master of the Rolls, Lord Justice Pickford, and Lord Justice Warrington, allowed an appeal from a decision by Mr. Justice Neville. The plaintiff, J. S. E. de Vesian, moved to obtain an injunction to restrain the defendants from interfering with his rights as a member of the defendant institution or with his enjoyment of the use and benefit of the institution, and from acting upon or enforcing a resolution of the council of the institution purporting to expel him from membership and from omitting his name from the register or list of members of the institution, and from announcing that he had been expelled from or had ceased to be a member of the institution. Mr. Justice Neville had held that there had been an irregularity in the proceedings of the council of the institution, but the Appeal Court granted an injunction until the trial. When plaintiff became a director of Messrs. L. G. Mouchel and Partners, Ltd., the institution accused him of certain breaches of the regulations, and erased his name from the register. Hence the action which Mr. de Vesian has entered against the Council.

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THE MAUSOLEUM OF CECILIA, METELLA.

(From Piranesi.)

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EDITORIAL.

POSSIBLY the report that the Turks have trained great guns on the mosque of St. Sophia is no more than an effort of the imagination. On the other hand, it wears an air of verisimilitude that may well engender misgiving. Veneration is not a conspicuous virtue of the Turks, who, in destroying St. Sophia, would suffer none of the pangs that they would be gleefully conscious of inflicting on the Giaours. Moreover, destruction would prevent all possibility of the church's return to Christian uses, which the Moslem would no doubt regard as desecration. Hence the wilful demolition of the most remarkable building in the world may yet bring to a climax the wanton excesses by which the present war has been beyond all other wars distinguished. Although it has survived the frequent assaults and other vicissitudes of fourteen centuries, three hits from a howitzer would lay it in ruins in as many minutes, and the worst calamity of the war, architecturally speaking, will have been achieved in mere wantonness; which, to be sure, is exactly the spirit in which most buildings have been destroyed in war, although the destroyers have nearly always pleaded military necessity.

Rather an odd fate overtook, long before the present war, the church of St. Irene, Constantinople, which has the most typical plan of all those used by Byzantine architects. Its eastern cupola is carried on four great arches, which are extended into short tunnel vaults, under which are the north and south galleries; while the western cupola, which is of oval plan, is supported in the same way, and also has galleries under the tunnel-vaults of the north and south sides. The pendentive system of construction in St. Irene, which was built before the days of Justinian, is very slightly modified in the church of St. Sophia. But the oddity is that the church of St. Irene has long been used as a museum of arms and implements of war: Irene signifying Peace and being the patroness thereof. Surely the Turks have an ironical sense of humour.

It would seem that the affixing on one of Messrs. Barclay and Perkins's buildings in Southwark of a tablet stating that here was the place where Shakespeare had his Globe Theatre was merely symptomatic of a wider inquiry, which may ultimately result in a revision of all the sites of all the Shakespeare theatres. Of these the very earliest—"The Theatre" it was very aptly called, because it was unique—has been the subject of very careful investigation by some of the "learned clerks" of the London County Council, who happen to have a school on or adjacent to this very interesting site in the Curtain Road, Shoreditch. What the Council have

to say about the discoveries that have rewarded patience and skill of their archæologically inclined officials was recorded in last week's issue, from which it appears that there is now tolerable certainty about the site. As this seems to be a mere matter of calculation and inference, however, it is not likely to afford the effectual help towards reconstruction (on paper) that might have been derived from a discovery of actual foundations.

No view of "The Theatre" is in existence, and what it looked like is a matter of mere conjecture. Some such skill of inference as that which enabled Professor Owen to reconstruct an antediluvian beehive from a single bone is no doubt possessed by a few subtle redintegrators like Mr. Walter Godfrey; and that gentleman has given close attention to the construction of the early theatres, and has made several essays in their reconstruction, we should like to hear that he has been afforded facilities for studying the newly ascertained data relating to "The Theatre".

In his interesting volume on "Early London Theatres," Mr. T. Fairman Ordish states confidently that "The Theatre" was round in shape, was made of wood, and was little more than a circular enclosure. "The enterprise of Burbage," says Mr. Ordish, "consisted in the simple device of the enclosure, where he could charge for admission, in place of the method of playing in a public place and depending for payment upon the largess of the spectators." The yards, with gateways that were only just large enough for a coach to pass through, were the favourite pits of the strolling players, and, as may be easily inferred from such few inn yards as still survive, with their galleries, balconies, and "pit," have influenced the design down to this very day. James Burbage, who besides being an actor, was by trade a joiner, was doubtless the architect and builder of "The Theatre," which must have been of considerable size, since it cost between £600 and £700 to build—a large sum in those days, a good deal of which, as Mr. Ordish conjectures, may have been spent on decoration. A contemporary document describes the theatre as a "gorgeous playing-place," admission to which, however, cost but a penny, or twopenny if one wanted a seat; and, by the way, a provision in the proposed lease of 1585 is to the effect that the freeholder, Giles Allen, his wife and family, or their assigns, might always have free seats at the performances—a tradition that endures to this day.

There seems to be no doubt at all that Shakespeare found employment at "The Theatre" soon after his arrival in London in 1585, although in what capacity—whether as "dresser of plays" or holder of horse—

still a matter of keen debate. There is a theory that he saw Burbage's company at Stratford-on-Avon, and that Burbage, seeing Shakespeare to be a lad of parts, induced him to come to London: in which case he would have found him something better to do than hold horses. Shakespeare's fame, however, was not at the Globe on Bankside, which stood where now is the brewery for which Barclay and Perkins, as heirs to Mrs. Thrale, for whom Dr. Johnson acted successfully as vendor, have adopted the lexicographer's bewigged head as a trademark!

The Globe was built of the materials of "The Theatre." There was serious trouble about the renewal of the lease of the Shoreditch theatre, and, indeed, there was an order of Privy Council that "The Theatre" should be "plucked down." James Burbage having died, his successors, Cuthbert and Richard Burbage, resolved to do the "plucking down" dramatically. They and their followers, armed "with divers manye unlawfull and offensive weapons, as helpe, swordes, daggers, billes, axes, and such like," attempting to pull down the theatre, were opposed by men's men, in spite of whom they "did then alsoe in most forcible and ryotous manner take and carrye awaye from thence all the wood and timber thereof to the Bancksyde in the parishe of St. Marye Ervyres, and there erected a newe playhouse with the old timber and wood"; the new playhouse being the Globe. But for the litigation between Allen and the Burbages, we should have known little or nothing about "The Theatre"; and but for the inclusion of records in the Middlesex Sessions House of an indictment against John Braynes and James Burbage continuing to present stage-plays after these had been prohibited, we could not have noted the rather curious coincidence that the officer of the London County Council who is credited with "a large amount of original research" respecting "The Theatre" is W. W. Braines. Was John an ancestor of his?

There was a time, it seems, when Edinburgh was known as "The Kirktown of St. Cuthbert," a fact that comes to memory in reading a newspaper notice of repairs to St. Cuthbert's Parish Church, which stands beneath the Castle Hill of that fine city. Mr. John Anderson, architect to George Heriot's Trust, was consulted with respect to extensive decay in the stonework of the church, he having made a special study of preservative works. It seems that some colourless preservative fluid of proved efficacy has been used on the stonework, while the upper surfaces of projecting features have been covered with lead to throw off the rainwater. St. Cuthbert's or "the West Kirk," an ancient foundation, the dedication being to a bishop of Durham who died in 687, but the present building dates no further back than 1775, and within a few years has been much modernised.

Thomas de Quincey, whose quaint little wizened face, and whose "face of a child that had been in years" were familiar for many years in Edinburgh, when he died in 1859, was buried in the churchyard of St. Cuthbert's. Here also was buried (although the location of his sepulchre has been claimed for the cathedral church of St. Giles) in 1617 John Napier, the inventor of logarithms, his discovery having been first known in 1614 in a volume (the "Canon Mirificus") which, in the annals of British science, is second only to Newton's "Principia." Napier's book was first translated into English by Edward Wright, Fellow of Caius College, Cambridge, a mathematician who rendered valuable service to the science of navigation. Napier

invented some "instruments of war," such as (1) a mirror for burning the enemy's ship at any distance; (2) a piece of artillery destroying everything round an arc of a circle, and (3) a round metal chariot, so constructed that its occupants could move it rapidly and easily while firing out through small holes in it—a crude anticipation of the armoured train.

No more appropriate place could be found for a memorial to the late Andrew Lang than the public library of his native town—a library, moreover, which he himself had formally declared open. The memorial is a tablet of Siena marble, holding a circular bronze medallion portrait by Mr. Percy Portsmouth, A.R.S.A., while side panels show figures of Meditation and Literature. In pronouncing his *éloge* at the unveiling of the memorial, Sheriff Chisholm spoke of Andrew Lang as "a critic, an essayist, and an historian who admitted the maxim that where the two conflict in a matter of fact, Border minstrelsy must override history"—the last phrase showing the Sheriff's perfect appreciation of the most delightful element in Lang's character, a charming whimsical perversity that was almost ladylike in its archness. "Dear Andrew of the brindled locks"—scholar, poet, and wit though he was, is chiefly remembered as the prince of journalists and of good fellows. Also he was the most industrious writer of his day, and, until the advent of Belloc and Chesterton, infinitely the cleverest.

The gibe that the best monument in London to look at was the Albert Memorial, because you could not see it for scaffolding, has now lost its force, the scaffolding having been removed. As one of the best-abused monuments in London, the memorial seems now to have forfeited, or at least to have lessened, its claim to that distinction, for a good deal of the lavish gilding which was its chief cause of offence has been removed, the bronze figures, including Foley's statue of Prince Albert, now showing frankly and honestly the metal of which they are made. Shorn of its tawdriness, the memorial has gained immensely in dignity, although it is true that no mere surface-scraping can reconcile us to the laboured pretentiousness of Sir Gilbert Scott's design. Scott, however, did a courageous thing in introducing the effigies of ancient and modern architects—fancy portraits of Ictinus, Mnesikles, Chersiphron, and Metagenes, and only too realistic representations of Pugin, Cockerell, and Barry. Of the ancients Mr. John T. Emmett wrote: "They are a set of weak-limbed, semi-idiotic, and half-naked loungers, wrapped in sheets"; but he had an over-developed sense of humour, and too much causticity in expressing it.

In the House of Commons, on July 26, Mr. Remnant raised a very important question with respect to contracts suspended by public bodies. He asked whether the Chancellor of the Exchequer was aware that the request of the Treasury to the London County Council that all large building operations under their control should be restricted or postponed during the present crisis was interpreted by the Council as an invitation to throw the burden of such restriction exclusively on their contractors, the effect of which would be to inflict loss on the contractors and financial embarrassment on many of the sub-contractors. To this Mr. McKenna replied that the intention of the Treasury was that such postponements in regard to works already under contract should be made by arrangement with the contractors. He could have said nothing less; and the Council should hardly have needed this

stimulus to bare justice. At all events, the Council and other public or private building owners have now not the slightest excuse for hesitating to do what is manifestly right and proper. They must pay up promptly for what has been done or procured on their behalf; and they ought also to compensate the contractors who have, in the interests of the building owner, incurred contingent obligations that, while less tangible than those represented by "work done and goods delivered," nevertheless involve losses for which the contractors should be fully reimbursed.

THE PLATES.

Design for Stepney Municipal Buildings.

WE publish this week the fine design by Messrs. Adshead and Ramsey submitted in the recent competition for new municipal buildings at Stepney. The authors aimed at producing a building possessing the character of the traditional English town hall. The porticoed entrance approached by external staircases was employed with the idea of expressing the civic dignity of the Committee and Council rooms, which are placed on the first floor. The elevation is the logical outcome of the plan, which clearly defines the various uses to which the different parts of the building would be put. The business entrances are placed in the centre of the side elevation, and give direct access to all the important administrative offices. The lower entrance on the front elevation was intended to be used on ordinary occasions by members of the Corporation and others, whilst the entrance under the portico was to serve for receptions and special purposes. (This entrance is in direct connection with the suite of Committee rooms.) The dual character of the building as a business and civic centre has been insisted upon, both in the plan and in the elevation.

Pilaster Capital from the Drapers' Hall.

There are about half a dozen of these in the Woodwork Department of South Kensington Museum. They are very dark in tone, with remnants of gilt enrichment in parts. If not designed by Robert Adam, they show his influence pronouncedly, the rams' heads in the volutes being one of his favourite decorative motifs.

Corner House in Paris.

Good proportion, a tasteful use of a large Order, and appropriate relief with sculpture and carving distinguish the house at the corner of the Rue du Mont Blanc, by Le Doux. The plan is not of equal merit, the striving after architectural shapes having involved a complex arrangement, with an uneconomical use of space.

An Eighteenth-Century Wall Monument.

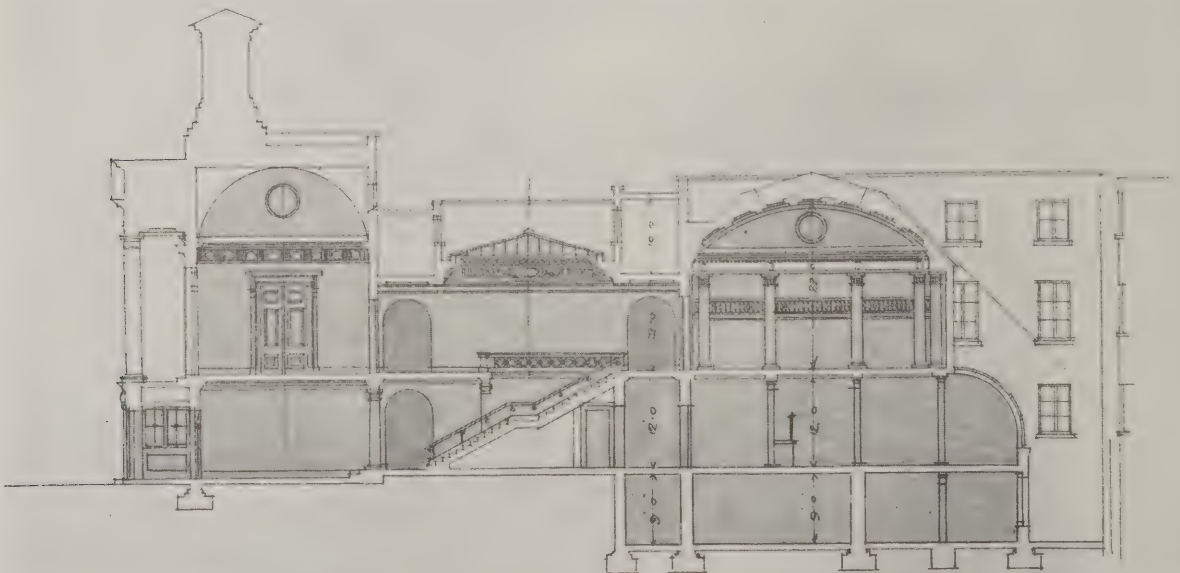
As in the case of three or four others in the series we have not been able to ascertain in what church the monument to William Campion is erected, but the matter is of small consequence, as the chief interest is in the design itself. In passing we may note the phraseology of the inscription, so typical of the eighteenth century—"He died September ye 20 A.D., 1702, in the 63rd year of his age, after having served his Country with an unbiased integrity through the course of several Parliaments, as in private station he was deservedly esteemed, a loving Husband, a prudent and kind Father, a true Friend, a sincere and charitable Christian."

Manchester Old Town Hall Mouldings.

These do not need any description.

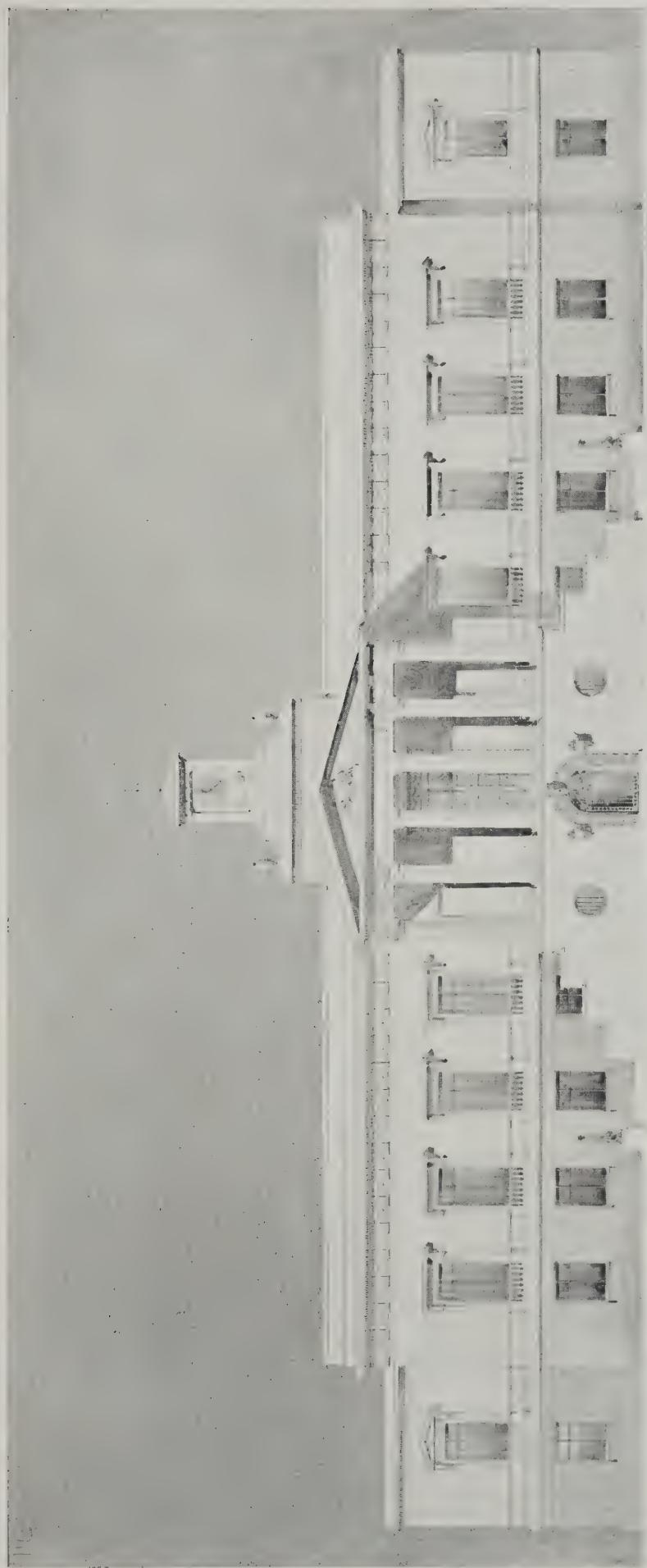
New Entrance, Milford Lane, London, E.C.

This is part of the alterations and additions carried out by Messrs. William and Edward H. F.F.R.I.B.A., at the premises of the "Illustrated London News and Sketch." Considerable shoring and needling was required in order to cut through to widen and heighten the old openings, over which arches and beams at various heights supported the superstructure of floors of machinery necessitating very careful handling. The doorway gives access to the principal office, which are now approached by a fire-resisting staircase finished with white Pentelikon, Levanto, and Empress Red marbles. There is a simple handrail of tubular bronze, and the walls are finished in plaster with moulded enriched panels and painted. The paint was brought forward in a dull ivory tone and finished with a blue grey, the reliefs of the enriched portions of the panel moulds having the last coats wiped off. The doorway is faced with white Portland stone, and the tablet over has cast bronze lettering, while the fanlight is in wrought iron blacked and dull gilt. The builders were Messrs. Wicks and Co.



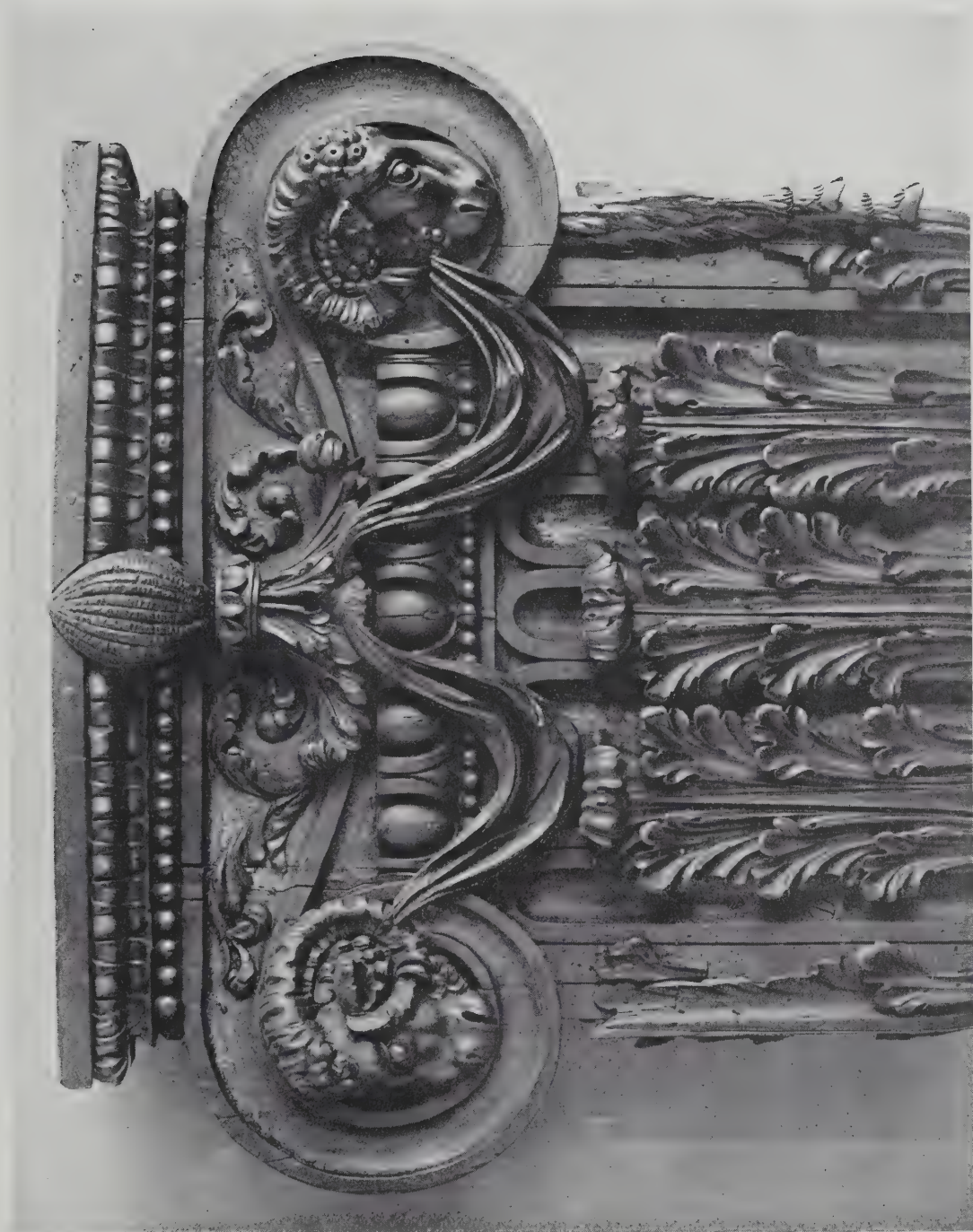
DESIGN FOR NEW MUNICIPAL BUILDINGS, STEPNEY: CROSS-SECTION.

ADSHEAD AND RAMSEY, ARCHITECTS.



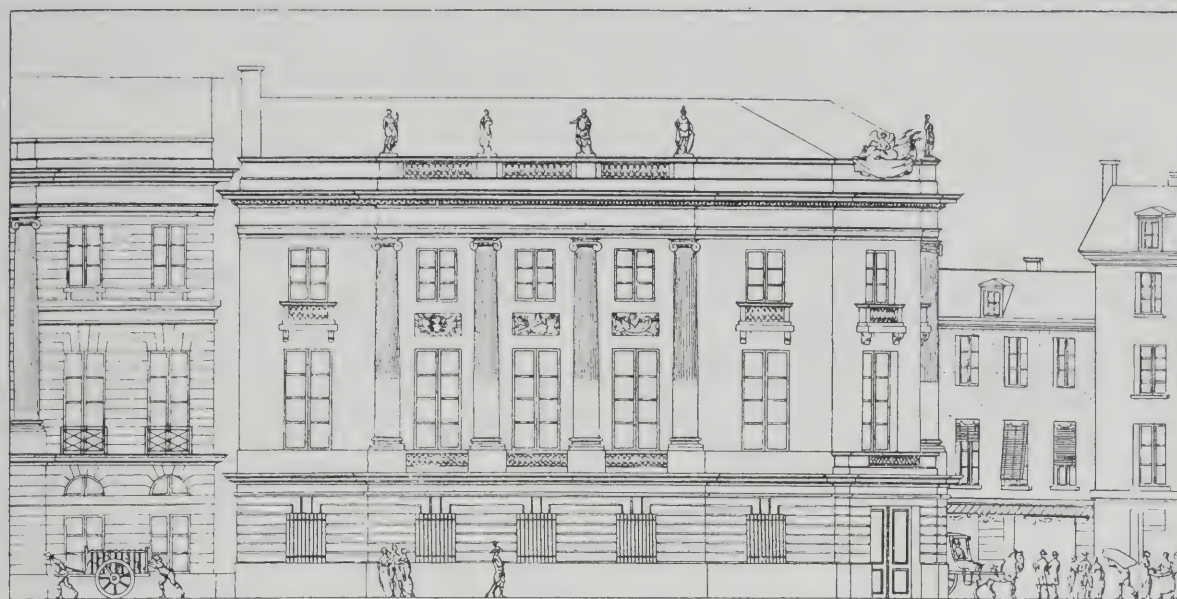
CURRENT ARCHITECTURE (SERIES II.). XXXIX.—DESIGN FOR NEW MUNICIPAL BUILDINGS, STEPNEY, LONDON, E.
ADSHEAD AND RAMSEY, ARCHITECTS.

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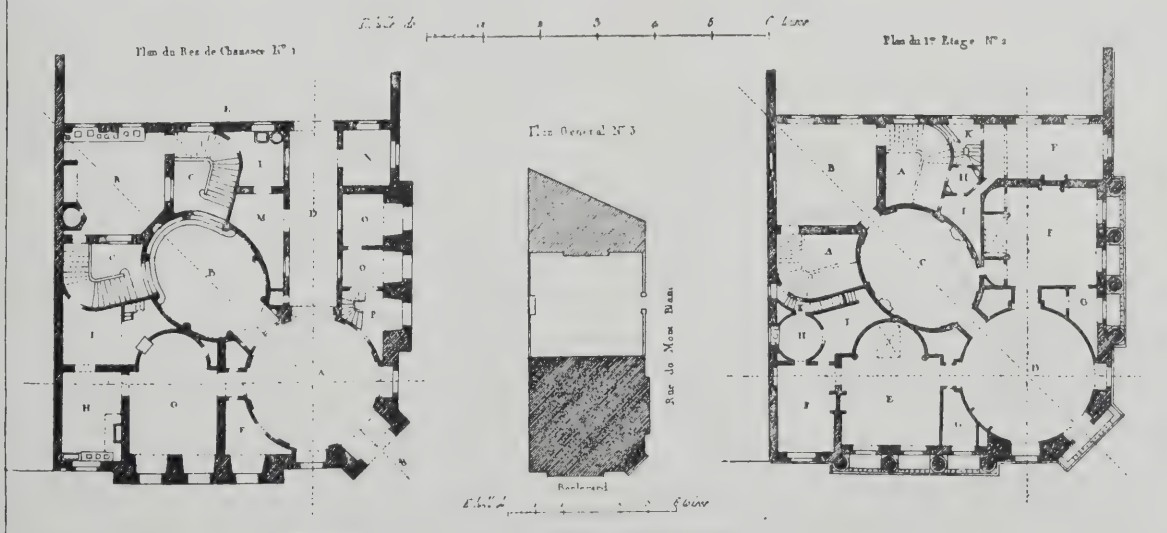


DETAILS OF CRAFTSMANSHIP. XXIX.—PLASTER CAPITAL FROM DRAPERS' HALL, NOW IN THE
VICTORIA AND ALBERT MUSEUM, SOUTH KENSINGTON.

LIBRARY
OF THE
UNIVERSITY OF ILLINOIS



coupe



DESIGNS FROM KRAFFT. XIII.—MAISON MONTMORENCY, CORNER OF RUE DU MONT BLANC. PARIS.
LE DOUX, ARCHITECT.

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UNIVERSITY OF ILLINOIS

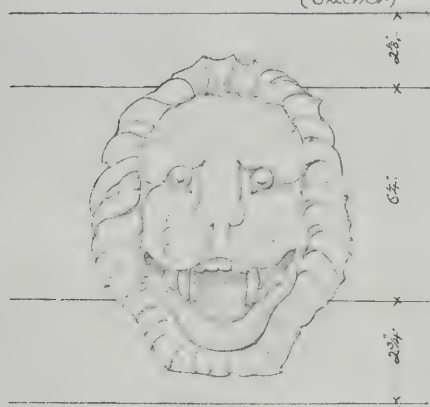


Sacred
 Memory of WILLIAM CAMBION Esq^r of Combwell:
 He died of Smallpox of his father S^r WILLIAM CAMBION
 Esq^r for his Steadfast loyalty to King CHARLES the first in
 the glorious cause he was at last killed at the fatal Siege of
 Colchester, and buried there.
 The above-named WILLIAM CAMBION Esq^r married FRANCES
 Daughter of S^r JOHN CLAY Esq^r by whom he had Five Children
 GRACE, WILLIAM, ANNE, BARBARA, PAUL ADELPHA, FRANCES
 MARY, ANNE, and THOMAS.
 He died Sept^r 20th 1642, in the 68th year of his age;
 after having served his Country with great Fidelity and
 courage in several Battles, and in the course of his long
 life, being a true and constant Friend to the
 Cause of Liberty and Justice.

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Manchester Old Town Hall *Details of Moldings, etc, to Main Hall.*

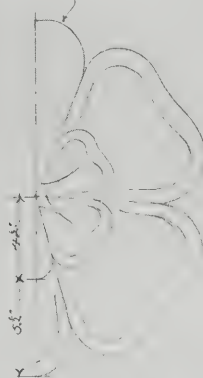
Front Elevation of Lions
 Head to Octagonal Attic
 Cornice: (Half Full Size.
 (Exterior)



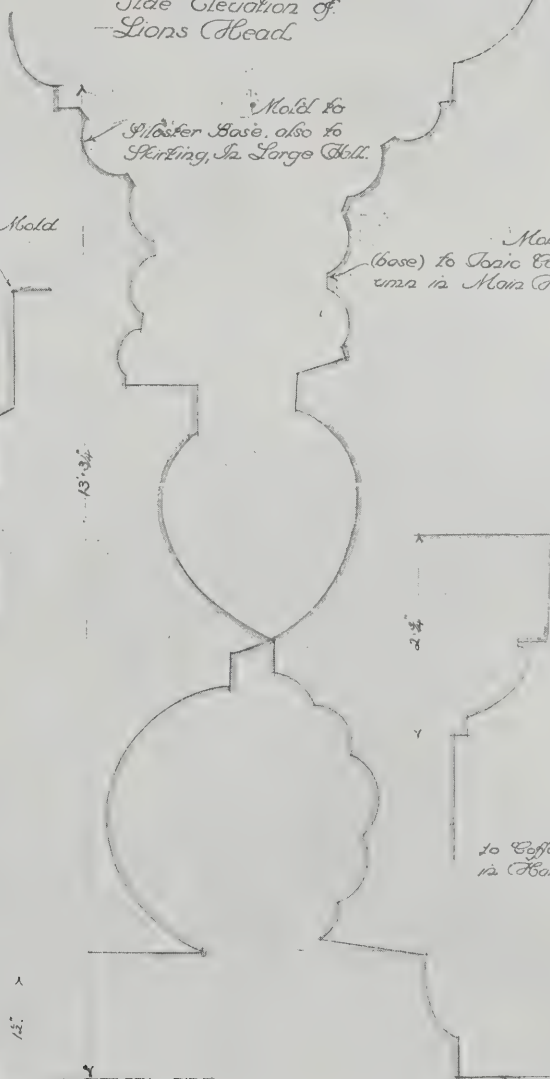
Measured & Drawn on the Spot by
 Gordon Hemm.
 March/12.



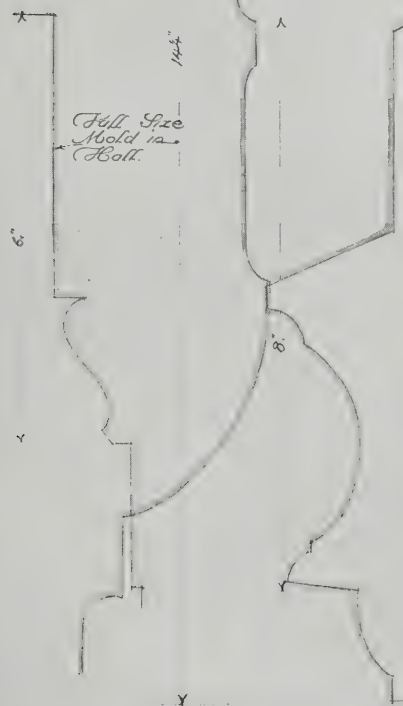
Octagon Attic Size
 Rosette to Entrance
 Hall Dome.



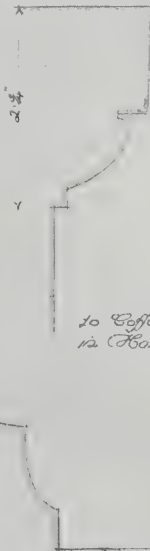
Side Elevation of
 Lions Head.



Mold
 of Skirting in Main
 Hall. (See Sections)



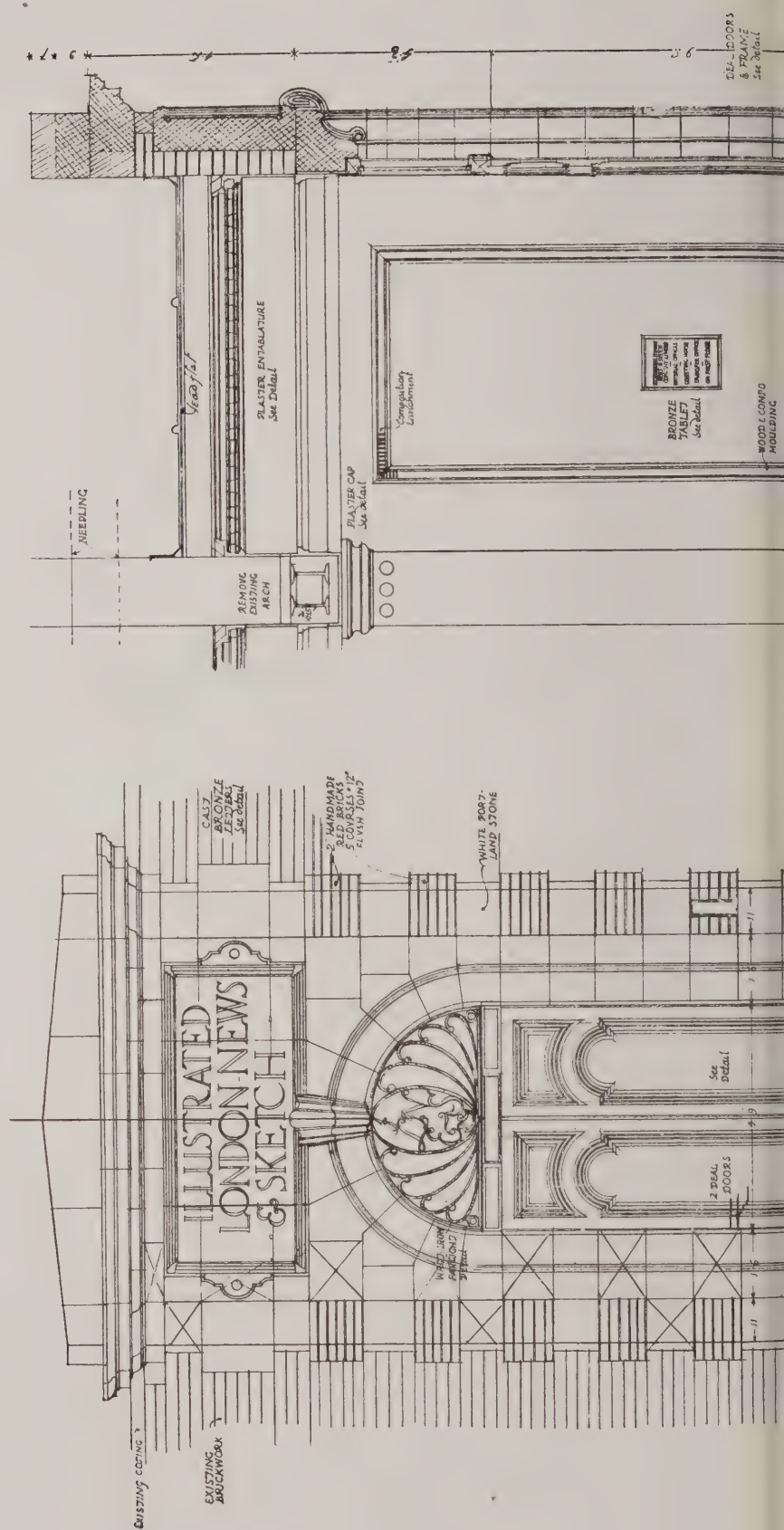
Mold
 to Copper Panels
 in Hall Dome.

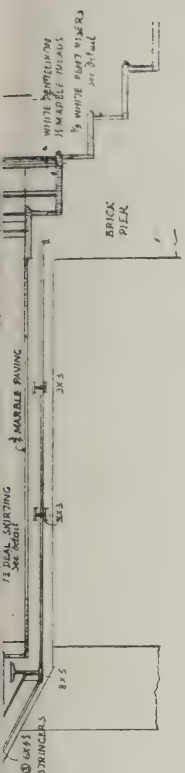


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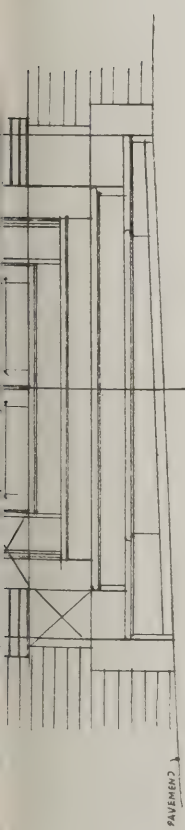
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ALTERATIONS AND ADDITIONS
FOR THE ILLUSTRATED LONDON
NEWS AND SKETCH LIMITED.

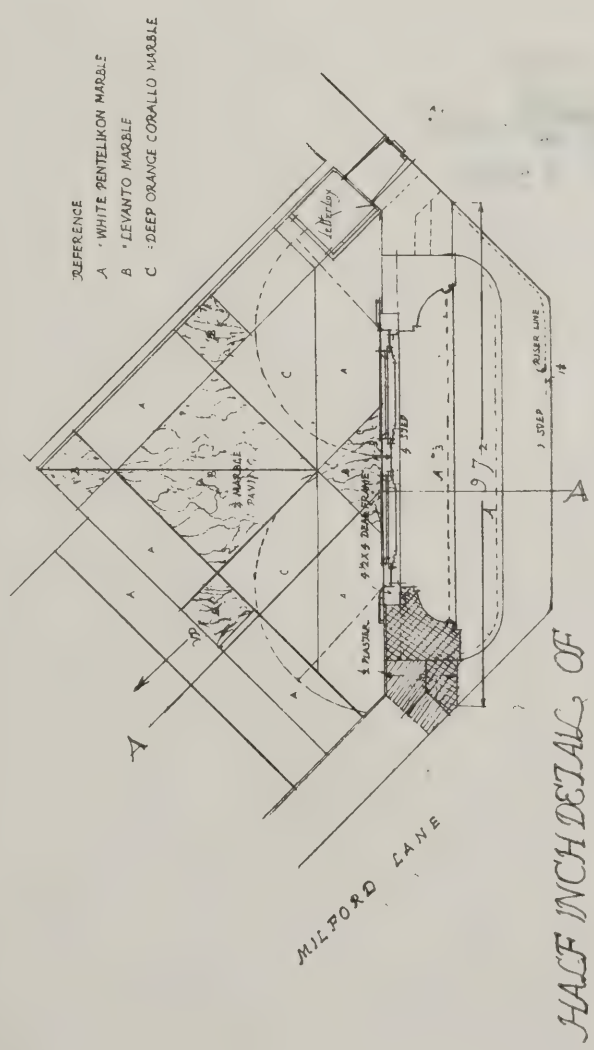




SECTION On line A-A"

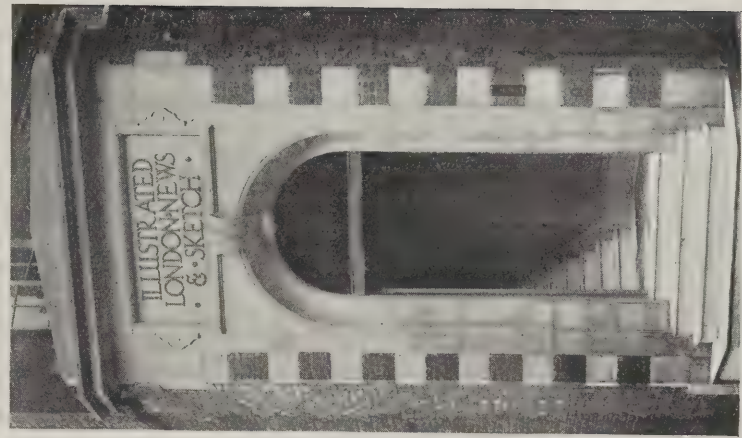


ELEVATION



HALF INCH DETAIL OF
 NEW ENTRANCE DOORWAY

William & Edward Hunt Architects
 DRAWING NO. 6



WORKING DRAWINGS BY WELL-KNOWN ARCHITECTS (SERIES II.). IX.—NEW ENTRANCE, MILFORD LANE, STRAND, LONDON.
 WILLIAM AND EDWARD HUNT, F.F.R.I.B.A. ARCHITECTS.

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CORRESPONDENCE.

The Report on Rural Cottages.

the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.

SIRS,—I am very glad you have published the correspondence which has taken place between the Society of Architects and the Board of Agriculture on the above-named subject, and perhaps I may be permitted to express my agreement with your editorial remarks on that correspondence.

In my observations on the annual report of the R.I.B.A., which appear in the "Journal" for May 22, 1915, I entered a protest against the Board's publication, and the assistance it had obtained from members of the Institute. I think it is only fair to their professional brethren to ask Mr. Raymond Unwin, R.I.B.A., and Mr. Charles E. Vardell, A.R.I.B.A., to put your readers with their particular views on the subject.

WILLIAM WOODWARD, F.R.I.B.A.

13, Southampton Street, Strand, W.C.

Lettering.

the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.

SIRS,—In your issue of July 21 Mr. Caulfield draws attention to Mr. Johnston's work in lettering. I quite agree that this work is of the first importance artistically, and yield to no one in admiration of it. But when he says that "indirectly he (Mr. Johnston) is responsible for most of the good printing that is coming fairly common here and on the Continent" is certainly not justified in making such a statement. The modern improvement in printing derives, if from any one man, from Mr. Emery Walker, the man whose fine taste and wide knowledge of everything

relating to the graphic arts have been the foundation of the renaissance in printing. He was William Morris's right hand at the Kelmscott Press, he was one of the founders of the Doves Press, he was associated with the production of the very distinctive type of the Ashendene Press, with the production of Mr. Proctor's Greek type, and was largely advisor to Count Kersler, the moving spirit in much of the improved work on the Continent. He has served as chairman of the L.C.C. Consultative Committee on Book Production since its inception, and has always been ready to advise and inform or to lend his treasures for exhibition.

Mr. Johnston has scarcely influenced English typefounding at all—the more's the pity—and only recently Continental typefounding; for the rest, he has had scarcely any effect on typography.

I trust you will allow me to make this deduction from Mr. Caulfield's statements, for Mr. Johnston's work needs no inaccuracy to enhance its undoubtedly great value.

J. H. MASON.

DENDERAH.

The temple at Denderah represents what may be called, comparatively speaking, the modern Egyptian work. It was commenced in the Ptolemaic period, but its completion extended into the time of the Roman dominion, at and after 30 B.C. The general character of the ancient Egyptian architecture is quite maintained here; we can see that it belongs to the same school as the buildings erected fifteen centuries before it: but there are some differences in detail. The most important of these is the introduction of the screen wall between the columns of the portico, which in reality rises to about half the height of the columns, but so much of the front is buried in sand that this does not appear in the accompanying drawing by Mr. Conrade. The other difference is in the human-headed capitals, which are different from anything in the more ancient Egyptian work.



DENDERAH. FROM A WATER-COLOUR DRAWING BY A. C. CONRADE.

THE VENTILATION OF THEATRES.

LAST week we reproduced portions of a report by Mr. James Bishop, sanitary inspector to the Burgh of Leith, relating to the ventilation of theatres and picture houses, a subject upon which an editorial note appeared in the preceding issue. As considerable attention is now being given to this subject, it will be useful, and perhaps instructive, to note, from the following extracts from an article in the "American Architect," how the difficulty is being met in the United States.

Like "all Gaul," says the American writer, the theatre may be divided into three parts: first, the auditorium or body of the house; second, the stage and dressing-rooms; third, the foyer, lobby, corridors, office, and stairways. Distinctly separate as these parts are, they often become merged into one, the auditorium and stage making one room when the curtain is raised. Again, the doors into the corridors are often opened, thereby permitting an interchange of heat and air between these portions of the theatre and the auditorium proper.

The engineer, in designing a system of heating and ventilating for a theatre, will err if he bases his design entirely upon the concentration of these parts of the whole, inasmuch as conditions can be so radically and suddenly changed as stated above.

But, in addition to the structural features of the building, attention must also be given to furnishing an adequate supply of fresh air to the audience, which, in most cases, is tightly packed in the auditorium; and, usually, there are two or three deep balconies, which not only add to the number of occupants, but also, by their construction, form pockets where the air is likely to become stagnant or overheated. This problem of furnishing fresh air to the audience is not always easy to solve when it is borne in mind that the animal heat given off by a closely packed audience is sufficient to vary the temperature from 5 to 10 degrees.

Fresh Air Supply.

The means of the natural entrance for air in most theatres is from the front or rear and sides, since theatres are usually built with open courts or spaces at the rear and sides when not located on a corner plot.

Theatres are, as a rule, mechanically ventilated by either one of two methods, upward or downward systems. In the first, air is admitted through perforations in the floor, underneath the seats or through openings in the chair legs, or through openings along the balconies and galleries, and allowed to escape through ventilators located in the roof space. This is the method generally employed.

In the downward method, which is similar to that used in school buildings, air is admitted through registers in the walls at a height of several feet from the floor, and removed through vent registers in the walls at the floor-line, or through openings in the floor under the seats.

The Plenum System.

In the plenum system, the fresh air is forced by a fan through heaters into a plenum or fresh-air chamber, built beneath the auditorium and extending through its entire length and breadth. In some instances, a branch pipe from a duct leading from the fan is run through the main plenum chamber, furnishing heat beneath the entire floor of the balcony. Warm air

is admitted into the auditorium through small round iron pipes, located beneath the seats. The pipes are usually capped with mushroom heads, which are arranged to control the air supply by means of dampers or other devices. In other cases, the air supply is brought up through the chair legs and admitted to the auditorium through a number of small perforations in both sides of the leg. The construction of the chair is such that one leg serves two chairs.

With this system, it is customary to provide a system of exhaust piping, arranged in connection with an exhaust fan, in order that the space at the rear of the dress circle and balconies may not become a pocket from which the heated air is unable to escape. The exhaust fan is placed between the ceiling and roof, and the air is so exhausted as to discharge into the open.

Since the first complaint of bad air and overheating usually comes from the balconies, it is important that their ventilation be particularly strong.

In order to provide a means of exit, and to prevent the foul air from drifting toward the balconies or remaining in the upper part of the auditorium, vents are also placed in the walls and directly over the stage.

Where it is impossible to obtain a plenum chamber for air supply, the downward system is used. This is typical in schools, theatres, and halls having high ceilings. Another method is to place large ducts under the auditorium floor, from which branch ducts are taken off, and by this means, the upward system may be utilised.

In many instances, owing to the design of the theatre, the location of the floor vent must be in the outside wall. When this is the case, the efficiency of natural draught is seriously impaired, owing to the cooling effect on the outside wall. In such cases the flues thus located should be connected with suction fans.

Air Distribution and Draughts.

A feature of great importance in the design of ventilating apparatus for theatres is the question of air distribution and avoidance of draughts, greatly increased owing to the unusually large dimensions of such buildings and to the density of the audience.

In order to avoid draughts, an excess of pressure is created in the auditorium. By this means, the leakage of air will be towards the stage and corridors. If the system is arranged in this manner, disagreeable draughts will be avoided in the auditorium on the opening of the corridor doors or with the raising of the curtain.

Another question requiring consideration in the heating and ventilation of theatres is the provision of some means of re-circulating the air. This system of re-circulation of air is employed when starting to heat the house before the performance commences. A complete circuit is established in the auditorium by opening a large register space provided in the floor of the auditorium directly over the fans. The air is then drawn into the heater, whence it is forced into the plenum chamber and, finally, again into the auditorium.

Re-circulation of Air.

It is possible by re-circulating the air to heat the auditorium in about four of these circuits, occupying less than 40 minutes. The opening from the plenum chamber to the auditorium is closed as soon as the

audience assembles. Connection is made to the stack leading from the roof, fresh air supplied throughout the performance.

Heating the Theatre.

It is not necessary to heat the theatre to a temperature as high as the other buildings. People are in street costume when they enter a theatre and generally come from a lower temperature. Therefore, high temperature is not necessary in the theatre when it is first thrown open, for the further reason that the auditorium becomes heated in the course of an hour on account of the close seating of occupants. Provision for heating after performance has commenced is generally unnecessary, attention being primarily given to the ventilation of the auditorium, since it is generally necessary to cool rather than to heat the auditorium.

The foyer or lobby of the theatre should be taken care of generally by means of direct radiation. A certain amount of fresh air is usually supplied to the foyer. This under ordinary conditions may be taken as three to four complete changes per hour.

The fans should be of such capacity as to be able to change the air throughout the entire building once every ten or fifteen minutes. Sufficient radiating surface should be installed to raise the temperature of this volume of air on passing over it to such a point as to maintain 70 degrees throughout the building.

In summer the distributing ducts of a fan system may be employed for conveying cold air to the various parts of the auditorium. The air washer is a successful adjunct to such a system.

Physical Data.

The number of cubic feet of air required for ventilation in theatres per head per hour is given by Moran at 1,585. Professor Allen gives 2,000 cub. ft. per person per hour, while Alfred Wolff states that in theatres and large auditoriums, in which the cubic space per individual is great, the atmosphere is thoroughly changed before the rooms are occupied, the occupancy is of two or three hours duration, 2,000 to 2,500 cub. ft. per inmate per hour is a satisfactory allowance. He cites the Madison Square Theatre as having a systematic air supply of 1,500 cub. ft. per inmate per hour. It was found upon investigation that the American Theatre, one of the first theatres heated and ventilated in New York City, required 660 cub. ft. per person per hour, assuming the theatre to hold 3,000 people.

In regard to the velocity of air at registers, Alfred Wolff states that it is a well established fact that when the air enters at or near the floor, it is desirable that the velocity of inlet should not exceed 2 ft. per second, which means larger sizes of register openings and flues than are usually obtainable. Accordingly, compromises are frequently made and much higher velocities of inlet than 2 ft. per second are, as a rule, in practice. Professor Hoffman gives 400 ft. velocity per minute, and 6.66 ft. per second. Tracy says that when air moves at a higher rate than 3 ft. per second a temperature of 60 degrees, a draught is felt. Professor Allen states that the velocity of air passing through registers should not exceed 300 ft. per minute. If it is admitted just over the head and where the current of air strikes the person, it should not exceed 150 ft. per minute. Where the air

ht in so that it cannot strike the
ants of the room, the velocity of air
gh the registers may be as high as
per minute.

Some American Examples.

the Little Theatre, New York City,
cub. ft. of air per hour per inmate is
led, while in the Eighty-sixth Street
re, New York City, with a minimum
ity of the fan, 432 cub. ft. per person
ur is provided, and with a maximum
ty 864 cub. ft. per hour per person
vided.

merican Theatre in New York
is heated mainly by the indirect
n, while a few direct heating radiators
aced in the dressing rooms, lobby,
of the stage and other places where
ated air that is blown in through the
of the theatre would not be liable to
ate. There are about 1,400 sq. ft.
ting surface of direct radiators in the
ng, and about 2,500 sq. ft. of heating
e in specially designed coils for the
g chamber in the basement. About
000 cub. ft. of air per hour are drawn
the heating chamber by the fan and
to the theatre, thus giving about
ub. ft. per person per hour as pre-
y stated.

fresh air for the indirect system
the building by a loggia or open-
y near the roof and descends to the
g chamber in the basement by means
3½ by 3 ft. duct. An iron damper in
uct, controlled from the heating
er, prevents an upward current
the fan is at rest. The air enters at
d of the chamber near the floor and,
passes between the inclined coils to
n. There is, however, an unobstruc-
ssage at one side of the coils, which
a greater part of the air to pass
to the fan. This passage can be
by a switch valve or door, swinging
vertical axis, and by the partial open-
closing of this door, the temperature
air entering the theatre can be regu-
An opening through the wall of the
nber allows the passage of air to
enum chamber.

plenum chamber occupies all the
in the basement under the main
of the theatre. The air is delivered
lower floor of the building by means
openings that pierce the main floor.
openings are approximately under
seat on the ground floor and under
third seat in the balcony. A hood is
over each opening to diffuse the air
it will not interfere with the com-
of the occupants of the seats by caus-
draught about their feet. Each
ng has a sectional area of 7 sq. ins.
al horizontal ducts connect the
n chamber with the vertical ducts
in the front wall of the building.
atter leads the air into the space
the floor of the balcony, from which
nally discharged by the hoods under
ats.

foul air underneath the balcony is
d off by ducts that run horizontally
e front wall, where they rise to the
nd are there finally combined to form
ircular flue 30 ins. in diameter. The
ir underneath the gallery is carried
y two vertical flues. The main
or the air in the theatre, how-
is by a bell in the ceiling. A
ntal duct leads from the bell to a
al masonry shaft, which finally dis-
es the foul air into the atmosphere.
horizontal duct is provided with a
er controlled by the engineer from the
n chamber, so that ventilation
gh the bell may be stopped at any

time. The vertical shaft is 49 sq. ft. in
section.

The ventilating system in the Boston
Opera House has a capacity of 80,000 cub.
of air per minute, supplied by two
8-ft. centrifugal fans, the air being
exhausted by two main exhaust fans, prop-
ellor type, 7 ft. in diameter. The build-
ing is heated by 8,400 sq. ft. of direct
radiation and the main heater at fans con-
tains 3,330 sq. ft. of surface.

The air supply to the main floor and
balconies is accomplished by the use of
plenum spaces beneath floors with mush-
room openings under the chairs. A special
air supply is furnished to each private box.

The New Theatre, situated on Central
Park West, New York, has a seating
capacity of about 2,200. The orchestra
floor contains 600 seats. Above the audi-
torium level there are twenty-three sub-
scription boxes, which contain six seats
each. Above them are located the foyer
stalls, containing five rows of seats. The
first balcony is located above these, having
a large seating capacity. Nine rows of
seats are contained in the second balcony.

Tempered fresh air supply is furnished
for the auditorium and other portions of
the building, as well as exhaust ventilation.
The ventilating apparatus is so arranged
that the air supply and exhaust from the
auditorium can be reversed. The venti-
lating apparatus consists of three steel
plate centrifugal fans. Tempering coils
are provided in connection with the blower
for the auditorium.

The Little Theatre, situated in West
44th Street, New York, has a seating
capacity of 300 people in the auditorium,
there being no gallery. There are thirty-
two radiators and coils in the theatre, con-
taining a total of 1,500 sq. ft. of heating
surface.

The fan used for ventilating the build-
ing is a steel plate centrifugal fan, having
a blast wheel of 54 ins. diameter. The
fan has a capacity, when operated at 290
r. p. m., of delivering 11,500 cub. ft. of
air per minute, which amounts to 2,300
cub. ft. per person per hour. A tempering
coil is provided in connection with the fan.

Fresh air is taken from the roof and
carried through the duct connecting to the
casing of the tempering coils. Two
hundred and ninety-eight improved cast-
iron mushroom ventilators provided with
dampers and locking devices are set in the
floor sleeve under the seats, in connection
with the plenum chamber. In addition to
the mushroom ventilators, a number of
registers are installed, connected with the
plenum chamber or the warm-air ducts.

A space is provided over the auditorium
ceiling, with a vent shaft connecting this
space with a fan room on the roof. In
addition, vent openings are provided
through the auditorium ceiling. An
exhaust fan is provided in the fan house
on the roof 42 ins. in diameter, for exhaust-
ing the foul air.

The Eighty-sixth Street Theatre is situ-
ated in 86th Street near Third Avenue,
New York City, and is divided into
orchestra, balcony and gallery, containing
1,366 seats. The fan employed is a multi-
blade fan having a minimum capacity of
10,000 and a maximum of 20,000 cub. ft.
per minute.

The auditorium floor is provided with
275 openings located under the seats over
the plenum chamber. In these openings
are placed pipes of 1½ sq. ins. area, made
of galvanised iron, which extend from the
under side of the floor to 2 inches above the
seat terraces and are finished with cast-
iron hoods, having a free area of 16 sq. ins.

In addition, six large heat registers are
located in the side walls of the auditorium.
Two 24 by 32-in. vent registers are
located in the side walls of the balcony
floor, and the same size and number in the
ceiling of the auditorium.

When the fan is running and supplying a
minimum capacity of air, 432 cub. ft. is
supplied per person per hour. When
running at a maximum capacity, the
supply of air is 864 cub. ft. per hour per
person.

In the Orpheum Theatre, Los Angeles,
Cal., the seating capacity is 1,800. The
theatre is arranged with galleries, balcony,
and three tiers of boxes on each side. The
plenum system of supply and exhaust is
installed, all fresh air being admitted at
the floor and exhausted at the ceiling.

The supply apparatus is arranged in two
duplicate units, one on each side of the
theatre. Fresh air is drawn through two
large fresh air gratings in the floor of the
side exit alleys, passed through coke air
washers, thence to the heating stacks and
discharged by two fresh air fans to the
plenum chamber.

Each fan delivers 1,500 cub. ft. of air
per minute. There are two plenum
chambers, consisting of the main plenum
chamber, taking up the entire basement
space under the main auditorium of the
theatre, and a smaller chamber, consisting
of the space under the balcony seats and
above the foyer ceiling. The air is
admitted to the auditorium through 3 by
6-in. openings under the seats in the main
floor and 4 by 9-in. register screens in
the face of the risers in the balcony. The
3 by 6-in. openings in the main floor are
covered with a hood, allowing the air to
escape around the lower edge.

The exhaust screen placed in the ceilings
over the foyer, balcony, and main ceiling
are connected to a single exhaust fan
located on the roof. This fan delivers
22,000 cub. ft. of air at maximum speed.

Floors registers are not permitted for
heating. Ordinances generally require
that the boiler be located outside of the
building and that coils and radiators be
placed in recesses formed in the walls or
partitions.

Some of the building ordinances specify
the amount of air for ventilation. Others
do not. The Chicago requirements are
1,200 cub. ft. of air per hour for ventilation
in theatres already erected and 1,500 cub.
ft. of air per hour per person in theatres
hereafter erected.

SOME PRACTICAL MANUALS.

"Stability of Masonry and other Struc-
tures subject to the Pressure of Earth and
Water," by Ernest H. Sprague,
A.M.Inst.C.E., (Scott, Greenwood and
Son, 8, Broadway, Ludgate, E.C.; 4s. net),
regards earth and water pressure on walls
and other structures from both the
graphical and the mathematical point of
view. It contains ninety-two illustrations
and three folding plates, and worked
examples bring to a practical application
the very clear statements of theory. It is
an excellent introduction to a subject that
required pulling together and bringing up
to date, and in these respects the author
has been entirely successful.

"Masonry as Applied to Civil Engineer-
ing," by F. Noel Taylor, Member of the
Institute of Municipal Engineers (Con-
stable and Co., Ltd., 10, Orange
Street, Leicester Square, W.C.; 6s. net),
deals with masonry not from the artistic
standpoint, but from that of utility. It

treats of heavy works, of use rather than of ornament, and the author's aim is "to set forth broadly, without too much recourse to higher mathematics, the theoretical considerations with regard to structures" that make for economy and stability. Successive chapters deal with the stones used in constructional work, labour on stones, retaining-walls and earth-pressures, dock and other water-resisting walls, masonry dams, bridges, towers, and pillars, monolithic and block concrete construction, and shoring and underpinning. There are 212 figures elucidating the text, and it will have been seen from the above indication of the contents that the book embodies a great deal of practical information that is otherwise unobtainable, or at all events is not readily accessible.

"Handrailing for Geometrical Staircases," by W. A. Scott, Fellow of the Incorporated British Institute of Certificated Carpenters, and lecturer and instructor at the Portsmouth Municipal College (Whittaker and Co., 2, White Hart Street, Paternoster Square, E.C.; 2s. net), is a manual that really explains difficulties which other manuals quite commonly render more obscure by clumsy expression or over-elaboration of statement. These faults Mr. Scott has avoided, and, indeed, his instructions are more simply and clearly expressed than are those in any other manual on the subject that can be easily called to mind.

"Practical Gilding, Bronzing, Lacquering, and Glass Embossing," by Fredk. Scott-Mitchell (The Trade Papers Publishing Co., Ltd., 365, Birkbank Chambers, High Holborn), is one of the "Decorator Series of Practical Handbooks," which are edited by Mr. Arthur Seymour Jennings, F.I.B.D., and it reaches the high standard that has been steadily maintained in the series. It deals thoroughly and practically with every phase of the subject, except, of course, electroplating and chemical deposit gilding, which are clearly separate arts. Glass gilding receives special attention, and the book is illustrated with actual examples of gilded and lacquered relief and other decorations.

QUEENSLAND TIMBER RESOURCES.

The extensive forests of Queensland yield a great variety of woods esteemed for their strength, durability, and beauty. The principal merchantable timbers lie between the eastern seaboard and the Great Dividing Range, which runs roughly parallel to, and 200 miles from, the coast. At about the twenty-first parallel of south latitude, a spur runs westward nearly to the South Australian border, and bears on its crests and slopes much valuable timber. Forests are also found on the Denham, Johnstone, and Gilbert Ranges. The principal eucalypts are ironbark, grey, spotted, and red gum, blackbutt, and turpentine; Moreton Bay, brown and Bunya Bunya pines represent the conifers; and red cedar, beech, tulipwood, rosewood, red bean, and black bean are among the brush timbers of fine grain. On the extensive plateau west of the Divide there is but little timber; and towards the vast basin of the interior, the low ridges and banks of the short water-courses bear a growth of stunted eucalypts such as the gimlet gum, the desert she-oak, acacias and mallee. The chief supply of mill timber (eucalypts, Moreton Bay pine, etc.) is in the southern coastal region, from the New South Wales border as far north as Gladstone. In the regions between Rockhampton and Ingham the supply is not so plentiful; but

northward of the latter town the red cedar, kauri pine, and black bean are luxuriant. Large supplies of these valuable trees are found on the Barron Valley reserves, and in other localities between Ingham and Port Douglas. Inland from this zone of heavy forest is another, less densely timbered, bearing cypress and other pines, ironbark and acacias. In the south-western regions of the State the cypress pine flourishes.

PROFESSOR L. P. ABERCROMBIE.

In our issue of July 7 we had much pleasure in announcing the appointment of Mr. Leslie Patrick Abercrombie, M.A., A.R.I.B.A., to the Chair of Civic Design in the University of Liverpool rendered vacant by the appointment of Professor Adshead to the London Chair. We now give a portrait of Professor Abercrombie, of whom it is recorded in "Who's Who in Architecture" that he was educated at Uppingham School and at the Realschule, Lucerne. He was articled to Mr. C. H. Heathcote, A.R.I.B.A., and received supplementary professional training at the

Manchester School of Art, and afterwards in the evening department of the School of Architecture of Liverpool University. For seven or eight years he has been a Member of Council of the Liverpool Architectural Society. For three years he has been lecturer in building construction, mediæval architecture, and studio architecture, at the Liverpool School of Architecture, and for four years Lecturer in Research Fellow in the Department of Civic Design, Liverpool University. For four years he has edited the "Architectural Planning Review," to which he has contributed numerous articles, including valuable studies of Vienna, Paris, Brussels, and Berlin; an examination of the town planning schemes of Greater London; a series of reports on the working of the Town Planning Act. He has been a frequent contributor to this journal and to the "Architectural Review." He has won, either singly or in association, several important housing and town-planning competitions; and, in association with Mr. Lionel B. Budden, M.A., he was recently awarded £300 in the Bradford Corporation competition for the development of the central area of that town.



Photo: G. E. H. Rawlins.

PATRICK ABERCROMBIE, M.A., A.R.I.B.A.
Professor of Civic Design in the University of Liverpool.

NATIONAL FEDERATION OF BUILDING TRADES EMPLOYERS.

Yearly General Meeting at Leeds.

The half-yearly general meeting of the Federation of Building Trades Employers of Great Britain and Ireland, held by invitation of the Yorkshire Association at Leeds on Wednesday last, (Sinclair (Scarborough), the president, in the chair.

The Lord Mayor of Leeds (Mr. J. E. Ford) offered a welcome to the delegates on behalf of the city, and was afterwards thanked on the proposition of the president.

A cordial welcome was offered by the president to colonial and foreign visitors, and this was acknowledged by Mr. Jamieson, president of the New South Wales Association, and by M. Volckerick, Belgium.

THE REPORT.

The sixty-ninth half-yearly report of the Council stated that there had been a further increase in the membership. The state of trade continued bad, and there did not seem any prospect of improvement after the war. The high cost of living and the demand for labour in munition areas were causing considerable uneasiness among workmen in the building trades, resulting in demands for war bonuses from employers not engaged on munition or urgent Government work, similar to those granted by those who were engaged. The position of employers engaged on building contracts was very difficult, since they could not obtain war bonuses themselves with which to meet the demands of the men, while at the same time they were being penalised in other directions through high costs of production, lessened turnover of business, and heavy taxation. Since the last report the Royal Institute of British Architects had informed the Federation that it did not see its way to participate in the negotiation of an agreed form of sub-contract, but was willing to consider any amendment of Clause 20 of the agreed form of sub-contract which might be deemed necessary to enable them to negotiate the use of sub-contract with those concerned. The Joint Committee of the Federation of the Institute of Builders was considering what alteration, if any, was desirable. Meanwhile the National Association, representing sub-contractors employed directly by builders, had intimated a desire to resume negotiations for a form of sub-contract. The Society of Architects had drafted a form of contract which it proposed to recommend to its members, and had requested the Federation to offer criticisms and criticisms thereon. The North-Western Federation had in preparation a form of contract which it proposed to issue. It was understood that the R.I.B.A. had in preparation a revision of its existing agreed form. It was earnestly hoped that out of these activities would come either such a revision of the existing form or such an issue of an alternative form under the aegis of the Royal Institute as might render unnecessary the issue of any other. A sum of £1,086 had been received for the Belgian Builders' Fund, and members were urged to support it as generously as possible. The report dealt at considerable length with the enquiries made by the Northern Counties Federation as to the forms and conditions of sub-contract in use by local authorities. It was not considered that any insuperable difficulty would arise in formulating a standard form for general use by local authorities if the co-operation of the

latter could be secured in its preparation. The Federation therefore suggested for the consideration of the National Federation the advisability of preparing special clauses acceptable to and convenient for the use of public authorities for incorporation in the present National Form of Contract. Arising out of these enquiries and the enquiries of other Federations, the sub-committee dealing with the matter suggested that the Federation should draw up a model form embodying the main features of the agreed form, plus special clauses for local authorities. These special clauses should be derived from a study of similar clauses already used by local authorities, but so drawn as to attain any of their legitimate objects in a manner equitable to both parties. Arrangements with the R.I.B.A. might be necessary to avoid infringement of copyright, so far as the use of clauses from the agreed form was concerned. When complete the document should be adopted by the Federation and recommended to members for use with local authorities in preference to any other, and each local branch should be asked to try and get the form adopted locally by authorities. The Institute of Builders should be invited to co-operate, and a joint committee might take the matter in hand with power to employ the necessary legal assistance.

The Secretary reported that the Executive Council had considered the report dealing with the contract conditions with local authorities, and recommended that the conclusions be supported.

The President moved, and Mr. Mudge seconded, the adoption of this part of the report, and it was agreed to.

THE APPRENTICESHIP QUESTION.

A long report was submitted by the Sub-Committee appointed to deal with the apprenticeship question. The Committee suggested that inducements must be offered to youths of immediate earning power, plus future prospects, and to the employers of immediate utility as productive agents, plus future utility as trained and efficient men. The training of apprentices should be so arranged that they could be profitably employed at first on certain work and, subsequently, on better work. It was suggested that this could be done by training them systematically in a group system under a competent elderly artisan, whose job it should be to act permanently as an apprentice instructor. Jobs should be given to these apprentice groups to carry out and be responsible for. The object should be to create skilled labour and not to create a fresh class of underpaid labour, and therefore the number of apprentices so employed should be limited by the legitimate needs of the trade. Under such a system, time, during the day, should be set apart for theoretical instruction at the local technical schools where such existed.

The President proposed that the report of the Committee be adopted, and this was seconded by Mr. Bowen.

Mr. W. J. Renshaw (London) considered that, whilst the findings of the Committee were comprehensive, their remedies were inadequate. He dealt in detail with the scheme of apprenticeship which had been prepared by the Institute of Builders and pressed upon the Higher Education Committee of the London County Council, and moved, "That the further consideration of the report be adjourned; that the Institute of Builders' Apprenticeship Committee be invited to confer with the Administrative

Sub-Committee; that such Joint Committee do consider the Institute of Builders' apprenticeship scheme and report the result to their respective Councils."

Mr. Howarth (Rochdale) pointed out that, however good the scheme of the Institute of Builders was for London, it was not applicable to the provinces, whereas the report before them was most helpful. He urged that, with the scarcity of boy labour, they must pay higher wages if they would attract youths to the building trade, and he suggested they should have committees to draw boys from blind-alley occupations and that they might form guilds of apprentices in their towns and bring the lads together once or twice a year and give them a good time.

After further discussion Mr. Renshaw omitted the words from his amendment suggesting the adjournment of the consideration of the matter, and the amendment as thus revised was added to the report, which was then adopted.

WAR BONUSES.

The Secretary reported that the Executive Council had considered the resolution from the National Board of Conciliation with respect to the granting of war bonuses, and recommended that the following resolution be adopted by the meeting: "That although this meeting is of opinion that the conditions prevailing in the building trade do not justify generally any payment of war bonus, it be a recommendation from this meeting to the local associations that they may, in the present abnormal circumstances, relax the conditions now obtaining as to giving notice for alteration of rules, and in the event of applications for increase of wages they are to decide, after hearing evidence, whether such increase is justified or practicable. Failing an agreement, the usual conciliation arrangements to come into operation."

The discussion on the resolution was taken in private, and the motion carried.

CONCILIATION.

It was decided, on the motion of Mr. Storrs, that the United Builders' Labourers' Union be admitted to membership of the Conciliation Board wherever working rule agreements exist between the branches of the National Federation of Building Trades Employers and the Union, subject to the approval of the parties at present affiliated.

A similar motion was proposed by Mr. Storrs in regard to the admission of the Electrical Trades Union to the Board, but was objected to by Mr. Wallis on behalf of the London Association. The objection of the London Association was directed not to representation of the Union at a local board, but to their representation at Central and National Boards on cases in which working electricians were not interested.

After various suggested amendments had been discussed, Mr. Brown said London would accept the resolution and see how it worked.

An application by the Bricklayers' Society (London Order) for reaffiliation to the conciliation scheme was agreed to.

On the motion of Mr. Storrs, it was also agreed that the proposed national scheme for demarcation committees as amended be recommended to the approval of the various parties with a request that a return of the result be made in time for the October meeting of the Board.

It was agreed that the next meeting be held in London.

LAW REPORTS.

The Right of the L.C.C. to Terminate a District Surveyor's Appointment.

Notley v. London County Council.

July 29. King's Bench Division. Before Mr. Justice Rowlatt.

This was an action by Mr. Robert Pledge Notley against the London County Council, claiming a declaration that the resolution of the defendants of March, 1915, purporting to dismiss the plaintiff from his office as district surveyor of Bethnal Green West was illegal and invalid and void, and that the plaintiff was and is still entitled to hold such office and perform the duties, notwithstanding such resolution. Plaintiff further claimed an injunction restraining the defendants from enforcing or in any way giving effect to or acting upon such resolution. Plaintiff was appointed district surveyor in December, 1875. In June, 1911, plaintiff was informed that the defendants had decided not to entrust the plaintiff with the inspection of dangerous structures, or structures alleged to be dangerous. Later they dispensed with his services as from September 30, 1915, by the resolution complained of.

Defendants, by their defence claimed that they had power to dismiss the plaintiff. They denied that the dismissal was wrongful. Alternatively they said that before the passing of the resolution the plaintiff had become disabled by age from performing the duties of the office, and therefore they were entitled to and did remove him from the position. Part of his duty was to inspect and survey and certify dangerous structures when required, and owing to advancing age he was unable to do it. It was mentioned that the plaintiff was seventy-five years of age.

Plaintiff, in reply, said he had always been, and was ready and willing to perform the duties required of him.

Mr. Freeman, K.C., argued the case for the plaintiff.

Mr. Macmorran, K.C., said his point was that the defendants had the power to do what they did.

Mr. Freeman said there was no decision on the point, and they wanted one here, as the case might affect many others. That was by the way, however.

His lordship, after hearing legal arguments, gave judgment for the defendants, with costs, expressing the opinion that there was no question that the defendants did not use their proper discretion.

Payment for Unused Plans.

At the Liverpool County Court, on July 26, before his Honour Judge Thomas, an action was heard in which George Walker, a Liverpool architect, sued Alfred Smith, builder and contractor, Bootle, for £15 15s. for the preparation of plans for a proposed cinema house to be erected in Orrell Park.

Defendant denied that the plans were prepared at his instance, alleging that their use by him was part of a joint venture in the terms "No cure no pay."

The plaintiff's case was that the defendant authorised the preparation of the plans for a cinema house. They showed a building estimated to cost £4,500, and were signed by the defendant and were subsequently submitted to the magistrates, who rejected them, mainly on the ground that they did not consider the cinema was required or desirable. Three shops had since been built on the site.

Cross-examined, the plaintiff denied that

he had agreed with defendant that if the plans were rejected no charge would be made for their preparation.

Mr. G. Hastwell Grayson, F.R.I.B.A., President of the Liverpool Society of Architects, stated that it was not a usual thing for members to take work of a speculative nature on the terms of "no cure no pay."

His Honour said the question he had to decide was whether the plans were drawn on the understanding that if they did not go through there was to be no charge for them. He had no doubt that in the minds of both parties there had been some element of speculation, because both of them realised that the plans might not be accepted, and he did not think he could look upon the matter quite in the ordinary way of an architect preparing plans for a building that could be put up. At the same time he was not satisfied that there was an understanding that nothing at all was to be paid if the plans did not go through. In any event he thought the defendant had altered the position of the parties by his own act. He chose not to go on with the scheme himself, and he gave to another party an option to build a picturedrome on the site, which, had it been carried out, he would have had an interest in himself. He sought, in fact, to have a share in the venture undertaken by someone else, and allowed that man to bring in his own architect, and thereby eliminated the plaintiff, and prevented his getting any result from the work he had done. He thought in the circumstances the plaintiff was not entitled to payment according to scale, but that he was entitled to some payment for the work he had done. He therefore gave judgment for the plaintiff for £10 10s.

Requisition of Land by the Crown.

The Master of the Rolls and Lords Justices Pickford and Warrington gave their reasons for dismissing the appeal of an aviation company (whose name it is forbidden to mention) in the Court of Appeal on July 23.

Mr. Justice Avory held that the King, by virtue of his war prerogative, was entitled to take possession of the company's property without the liability of paying compensation, and also that the regulations under the Defence of the Realm Act conferred upon the "competent naval and military authority" an absolute and unconditional power to take possession of land and buildings, and to do any other act for public safety and the security of the realm, even though that act interfered with private rights to property.

The Court were of opinion that the appeal failed, and should be dismissed.

The Master of the Rolls said the petition of right was based upon the view that the Crown, as represented by the naval and military authorities, had no right to take possession of the suppliant's land and buildings, even though in the opinion of those authorities it was necessary in the public safety. The prerogative of the Crown was part of the common law, but the suppliants sought to limit the exercise of it to the repulsion of an immediate invasion. But to postpone action until the enemy had landed, or until the authorities were satisfied that a landing in a particular place was imminent, might be fatal to the safety of the realm. If it were said that the prerogative right of the Crown could not exist against an aerodrome because aeroplanes were not known in the reign of Richard I.—to which the common law in its present form was supposed to date back—the answer to that was to be

found in a case decided in 1905 by the Court of Appeal. The prerogative applied to what was reasonably necessary for defence of the realm, having regard to the invention of gunpowder and the use of aeroplanes. For these reasons the appeal must be dismissed with costs. To a misapprehension, however, it should be added that the Crown had expressed willingness to pay to the subject a reasonable sum out of the public funds, the amount to be determined by Mr. Justice, in commission, but this did not affect the legal position.

Lords Justices Pickford and Warrington concurred.

Builder's Liability for Accident.

At the Wolverhampton County Court before his Honour Judge Howard St. Mrs. Lucy Ann Broadhurst sued Moseley, builder and contractor, of Lenhall, for compensation for injuries sustained, as she alleged, through defendant leaving a quantity of bricks, which she fell in the dark. Plaintiff stated that she was blind in one eye, the sight of the other eye was weak. Her house was one of eight which opened out into a common yard, and on an evening last December, as she was crossing the yard, she stumbled against something which caused her to fall and injure herself. She found afterwards she had fallen across a quantity of bricks which had been left in the yard by defendant's workmen, who were doing structural alterations at the outbuildings connected with the houses. The night was dark, and plaintiff said that she was unable to see the bricks, which were stacked, nor was there any light to indicate their position. She alleged also that no warning had been given as to bricks having been placed in the yard. Her injuries caused her to keep to her bed for about five weeks. An employee of defendant said he placed the bricks in question in the centre of the yard, and he went to all the houses and warned the occupants of the houses to be careful, especially in the dark. He was plaintiff's daughter twice. The bricks were placed in the yard on the Saturday preceding the Tuesday when the accident occurred to the plaintiff.

For the defence it was contended that in giving the householders warning of bricks being in the yard, defendant had done all that he could reasonably be expected to do, and that the accident was due to the contributory negligence of the plaintiff.

His Honour decided that sufficient warning had not been given concerning bricks, and gave judgment for the plaintiff for £15 with costs.

OBITUARY.

Mr. Stanley Broadbent.

Mr. Stanley Broadbent, of Leicester, who died suddenly of heart-failure at his home, at the age of fifty-one, was the principal of the firm of Broadbent & Stephens, and a director of Stanley & Co. Ltd., colliery proprietors and brick and tile manufacturers.

Mr. W. S. Arnold.

Mr. W. S. Arnold, who died at Epsom on July 23, was head of the firm of Arnold and Son, builders and contractors who constructed the reservoir at Macclesfield (£440,000), built the Manchester Infirmary (£400,000), and developed several estates.

COMPETITIONS.

Stepney New Municipal Buildings.

At a recent meeting of Stepney Borough Council, the Special (Office Accommodation) Committee reported that, as a result of an advertisement inviting designs in competition for the erection of municipal buildings upon the Arbour Square site, 235 competitions were received for copies of the conditions of competition and site plan, 170 designs, comprising 532 mounted drawings, were submitted.

The Committee recommended that the plan of the assessor (Mr. Henry T. Jones) be formally adopted; that, subject to making such reasonable alterations as may be required, and to other conditions of the competition, Messrs. Briggs, Wolstenholme, and Thorneley be appointed architects of the proposed building, and that they receive remuneration according to the schedule of charges of the Royal Institute of British Architects; that, subject to the submission, at the proper time, of the requisite estimate to the Finance and Parliamentary Committee, and to the conditions of competition, the Council, at such time as they may think advisable, do erect Municipal Buildings in accordance with the design submitted by Messrs. Briggs, Wolstenholme, and Thorneley. This was agreed to.

Schools, Wyggeston.

For the proposed new Wyggeston Boys' School on the site in Regent and Victoria Streets, the Leicester Education Committee awarded premiums of £100, £75, and £50 to the designs placed first, second, and third in order of merit, respectively, and thirty-three sets of plans were received. George H. Widdows, F.R.I.B.A., who was appointed by the Education Committee to adjudicate upon the designs, has

made the following awards: First prize, Mr. Howard H. Thomson; second prize, Messrs. G. Lawton Brown and Percy C. Jones; and third prize, Messrs. Stockdale Harrison and Sons. The Secondary Schools Sub-Committee have recommended that Mr. Howard Thomson be instructed to proceed with the preparation of detailed plans and drawings, with a view to carrying out his design with certain modifications suggested by the assessor.

SPORTS STADIUM WITH 30,000 SEATS.

The Stadium here illustrated occupies a canyon site in Balboa Park, San Diego, California, and adjoining the Panama-California Exposition, now being held in the city park of 1,400 acres. The situation has the advantage of striking views of San Diego Bay, the Pacific Ocean, and mountains of Mexico, from the seats of the Stadium.

The new structure is probably unique in its dignified approaches and its freedom from subways. Circular processional drives give direct access to the field from the south, and terraced approaches lead spectators by easy stages to the main walks around the field at the head and foot of the tiers. Five main entrances with ticket offices are provided, and ten extra gateways for the quick clearing of crowds.

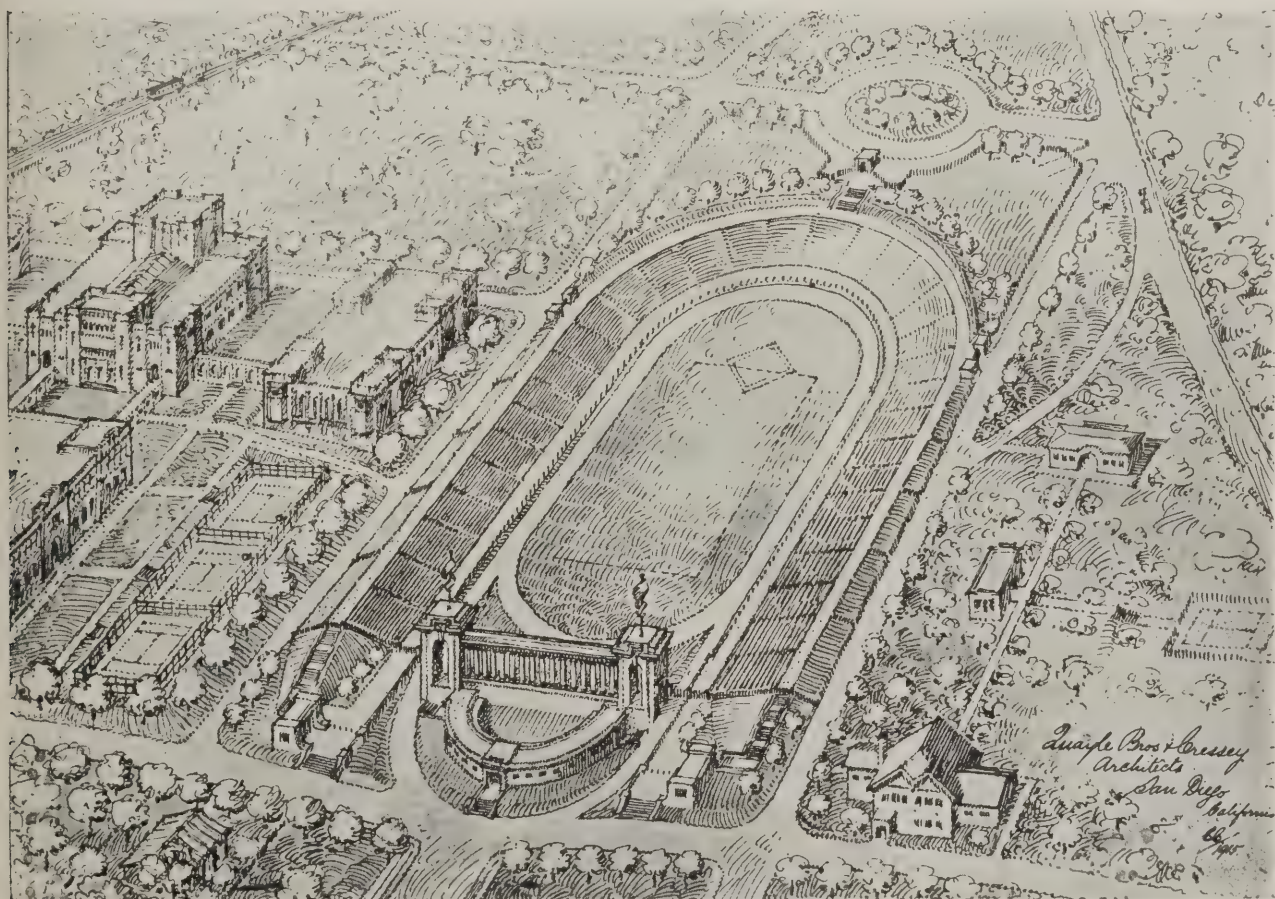
The south end of the field is enclosed by a colonnade, below which is a semi-circular building for athletes, designed so as to enclose a patio or open-air gymnasium and basket-ball court. The latter are features gained in solving the problems due to the considerable fall of the original ground (approximately 80 ft.).

The total excavation of 120,000 cubic yards was balanced by the earth used in levelling the field and forming embank-

ments for seats and approaches. All stepping walks, retaining walls, and terrace stairs are of concrete. The buildings are of brick construction, cement finished, except the colonnade, which is of reinforced concrete, the columns being hollow, and the cornice weight is reduced by a tile core.

A feature of the stadium stepping is the absence of reinforcement, the construction being carried direct on earthwork. Treads and risers were poured in short sections, using face forms and metal division strips. The settlement of the extensive filled embankments (which were wetted and tamped in 6-in. layers) is taken care of in the numerous joints upwards and along the length of the work. So far no settlement has occurred, although some movement is anticipated, and will be made good by repacking the particular section affected similar to stone work. The enormous economy in dispensing with column and girder construction justified the risks of earth settlement under the sectional system used for the concrete work.

The accommodation provides for 30,000 seats, there being more than seven miles of concrete stepping arranged in twenty-five tiers around a cinder track of a fourth-mile circuit and 16 ft. wide. The athletic field is 621 ft. by 287 ft., with provision for regulation fields for baseball and football. The park improvement area affected approximates 1,300 ft. by 600 ft., and the full cost is included within the municipal bond issue amounting to £30,000 and expended under the direction of the Board of Park Commissioners. Quayle Brothers and Cressey, San Diego, Cal., were architects for the work, which firm also designed the High School Polytechnic buildings adjoining the Stadium. Mr. Cressey, who is chiefly responsible for the design of stadium and school, is an Englishman, formerly of Lancashire.



SPORTS STADIUM, SAN DIEGO, CALIFORNIA. QUAYLE BROTHERS AND CRESSEY, ARCHITECTS.

NEWS ITEMS.

A New Concrete Dock.

A new dock built for the Dominion Government has been opened at Windsor, Ontario. The dock is of concrete throughout, is 655 ft. in length, and can accommodate the largest steamboats on the Great Lakes.

Change of Address.

Mr. J. E. Franck, formerly of 11, Pancras Lane, E.C., gives notice that he has removed to new studios and offices at 22, Orchard Street, Portman Square, W. Telephone, Mayfair 5330.

Architectural Partnership.

Mr. C. H. Montagu Jones, A.R.I.B.A., has joined the firm of Messrs. Young and Hall, 17, Southampton Street, Bloomsbury, W.C. (Mr. Keith D. Young, F.R.I.B.A., and Mr. Alner W. Hall, A.R.I.B.A.).

The Bishop's Throne in Bristol Cathedral.

The Dean and Chapter have received and accepted the generous offer of a Bristol Churchman to bear the whole cost of the restoration of the Bishop's Throne in the Cathedral Church. The design of Mr. Roland W. Paul is now being executed.

Memorial to General Buller.

A public hall for St. Thomas, Exeter, to be known as the Buller Memorial Hall, has been dedicated to the public. General Buller, after whom the hall is called, was patron of the living of St. Thomas, and held considerable land in the parish. Mr. Harbottle Reed, F.R.I.B.A., is the architect.

Waterproofing Cement.

We have seen a very interesting report from an architect at Nottingham who built a fair-sized flat roof in cement over a large school, the result being satisfactory. The same architect decided to try the effect of cement-waterproofing a heating chamber, the condition of which was very drastically affected by floods. His report says that the result of the Pudloed cement in both cases is very good.

The Dominion Site in the Strand.

The Improvements Committee has recommended the London County Council to extend until 1917 Lord Grey's option for the crescent site in the Strand. The payment for the option was £3,000 a year for taking a lease for ninety-nine years at an annual rent of £50,000, or purchasing the freehold at £1,300,000. The committee have treated the past year on the moratorium principle, and have extended the option.

Joint Asylum Building, Swansea.

The members of the Merthyr Corporation have visited Swansea, and, in company with members of the Swansea Corporation, visited the site of the joint asylum for the two boroughs which is being erected at Cefn Coed, Sketty. The work of the foundations, costing £20,000, has been for a considerable time under way, and later on the contract for the superstructure, to cost about £200,000, is to be given out.

Belgium and Liverpool Housing.

The two representatives (Messrs. L. Boerboom and R. Verwilghen) appointed by Monsieur Helleputte, the Belgian Minister of Public Works, to prepare a report upon English Housing and Town Planning, visited Liverpool on July 24, and were received by Mr. Turton, the director of housing, who explained to them the progress of housing reform in Liverpool,

after which they inspected various housing schemes of the Corporation, accompanied by Dr. De Bie and Mr. Sandars, who acted as interpreters. They were accompanied round the dwellings by Mr. Rowlands, of the Surveyor's Department, and Mr. Parry, of the Housing Department, after which, under the guidance of Mr. Aman, of the City Engineer's Department, they inspected the new roads on the outskirts of this city. The Belgian representatives intimated that the work was of great interest to them in view of the reconstruction of Belgium after the war.

The New London County Hall.

At the meeting of the London County Council on July 27, the Chairman of the Establishment Committee was asked by Mr. J. D. Gilbert if there was any truth in the statement published in certain newspapers that all work on the new County Hall had been practically stopped, and that an arrangement had been made with the contractors to pay them interest in respect of all plant that remained on the site and would be unused owing to the stoppage. The reply was in the negative.

Removal of Messrs. Holloway Brothers.

Messrs. Holloway Brothers announce that owing to the acquisition by the London County Council of their works at Victoria Wharf, Belvedere Road, Westminster Bridge, in connection with the extension of the New County Hall, they are removing to new premises, Bridge Wharf, Grosvenor Road, Westminster, S.W. (Telephone No. 8560 Victoria), to which address all communications should be sent on and after July 31, 1915.

With the Colours.

More than 450 members of the Auctioneers' and Estate Agents' Institute of the United Kingdom are serving with the colours. In the annual record of the institute, just published, the council express their great gratification that so many members have been able to take an active part in the service of their country. It is proposed at the termination of the war to place in a prominent position in the institute a suitable permanent record in memory of the members who lose their lives in the war.

Housing Munition Workers.

The Commissioners of His Majesty's Works have asked the L.C.C. to undertake the maintenance and management of the new Government housing estate at Well Hall, Woolwich, which has been provided for the accommodation of munition workers. The estate, which is about 100 acres in extent, will comprise altogether some 1,300 houses, and the gross rental is estimated at £37,000 a year. The houses are in the first instance to be let only to munition workers recommended by the Arsenal authorities.

Town-planning in Leeds.

Leeds Corporation have given formal notice of their intention to apply for power to prepare a town-planning scheme for the Gledhow and Lidgett Park districts of the city. This step was decided upon early in the year, and is part of a comprehensive undertaking, which covers a vast area on the north, north-east, and east of the city. An application has already been made in respect of the area on the north-east and east, roughly comprising the new districts of Roundhay and Crossgates, which were recently incorporated with the city, with the addition of part of Harehills. A local enquiry has already been held, but no decision has yet been received from the Local Government Board. Now the Corporation are linking up the contiguous areas of Gledhow and Lidgett

Park, consisting in all of about 850 acres of undeveloped land, stretching from Street Lane on the north to Round Road and Harehills Lane on the south. The boundary line is very irregular, following the course of existing streets and undeveloped property. In due course the Local Government Board will hold a local enquiry on the matter.

State of the Labour Market.

In the trades compulsorily insured against unemployment, viz., building works of construction, engineering, shipbuilding, vehicle making, etc., the percentage of unemployment at July 2, 1915, was 0.96, as compared with 0.92 a month ago and 3.53 a year ago. These figures refer to the whole of the United Kingdom, and include all unemployed workmen in insured trades. Owing to heavy engagements from the building trades, the number unemployed was low, although building operations continued to be restricted. The furnishing trades continued fairly good, and there was some improvement with mill-sawyers.

PROJECTED NEW WORKS.

Dunlops' New Works at Bromford.

The Works Committee of the Birmingham Tame and Rea District Drainage Board, referring to the proposed sale of the Dunlop Rubber Co., Ltd., of a 71½ acres of the board's land at Bromford for the erection thereon of works, report that the contract for sale and purchase has been duly exchanged and the amount of deposit has been received. The matter is now proceeding in the usual way.

Hospital, Shropshire.

A committee of the Shropshire County Council has held an inquiry at Ellesmere into a report by Dr. Wheatley, County Medical Officer, that the establishment of a joint isolation hospital is desirable in the districts of Oswestry, Ellesmere, Wem, and Wem. The cost is estimated at between £7,000 and £8,000.

Works and Workers' Dwellings, Edinburgh.

Treasurer's Committee of Edinburgh Town Council recently considered an offer on behalf of Messrs. Redpath, Brown and Company to purchase an area of ground extending to seventeen acres at Gorgie. The ground will be used for the erection of works and workmen's houses. The committee have agreed to recommend the Town Council to accept the offer.

New Buildings for Glasgow.

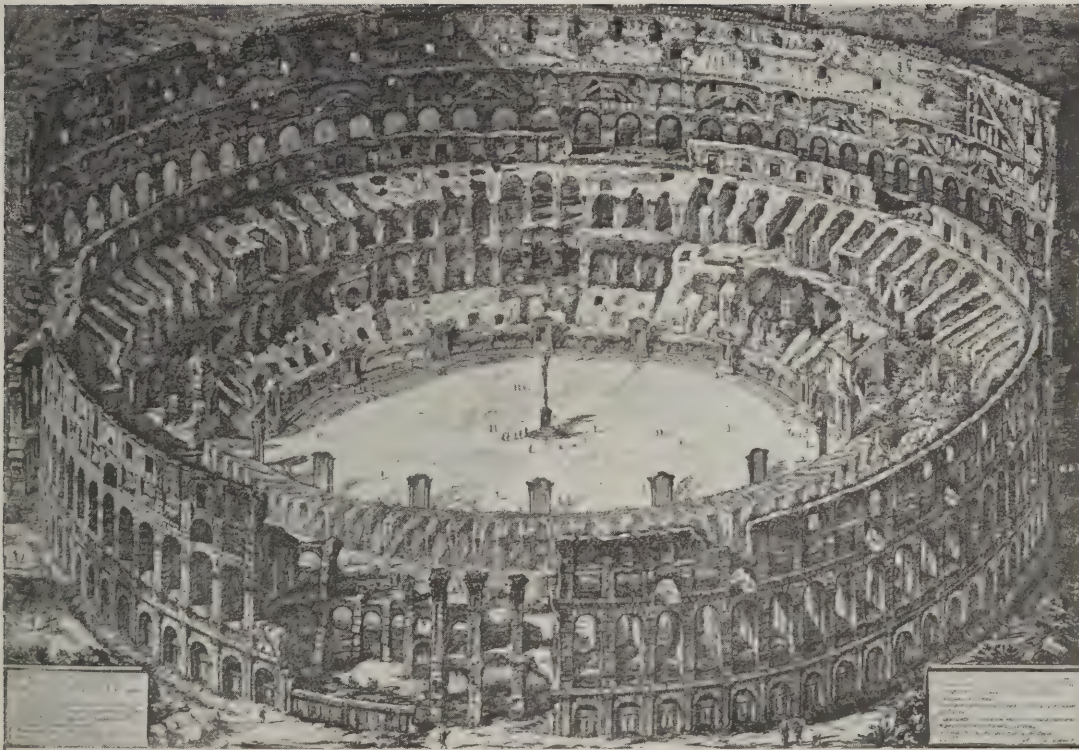
The following plans have been passed by the Glasgow Dean of Guild Court.—School Board of Glasgow—to erect an annex to Maryhill Public School; also a temporary annexe in the school buildings in Molendin Street; Victoria Infirmary—to erect buildings on the north side of Battle Road, Langside; School Board of Govan—to erect additional cloakrooms at Fife Trust Public School, White Street, Langlands Road; Adam Knox and Sons, engineers—to erect buildings at workhouse, Crownpoint Road; Corporation of Glasgow—to erect two tenements of dwellings and shops in Gallowgate and Clotted Street; William B. O. McDougall, Crown Circus Road, Hyndland—to demolish existing buildings and erect a picture house in New Bridge Street and Dumfries Road; Anglo-American Oil Company (Limited)—to make additions and extensions to subjects at Canal Street, Dundas; the Leyland and Birmingham Rubber Company—to erect a one-story building in Sandfield Street, Maryhill.

THE ARCHITECTS' & BUILDERS' JOURNAL.

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No. 147.



THE COLISEUM, ROME.

(From Piranesi.)

THE ARCHITECTS' & BUILDERS' JOURNAL.

AUGUST 11, 1915.

TOTHILL STREET, WESTMINSTER.

VOLUME 42. No. 1075.

EDITORIAL.

THAT hardy perennial, the L.C.C. proposals for regulating the construction of frame buildings in reinforced concrete, pruned a little after the chill blasts of winter criticism, has blossomed once more in the Council's minutes. Its appearance has certainly improved, and we note, not without some feeling of perhaps pardonable gratification, that much of the detailed treatment first recommended in these columns has been adopted. But whether it will be permitted to bear fruit this year remains to be seen. Unless the Local Government Board are too preoccupied with the problems of local expenditure to examine it closely, we anticipate that they will consider that there is still a great deal of dead wood and undesirable shoots to be removed before it can be regarded as a really healthy growth. The use of long complicated formulæ is still not only permissive, but compulsory, as are also detailed calculations for the district surveyors, to whom we tender our sincere sympathy. Do the Council really think that designers in reinforced concrete still habitually force their way through all such tangled mathematical undergrowth, or that British engineers will always be incapable of evolving simpler methods of calculation? The proposed code is, we believe, the first attempt to crystallise formulæ in what is practically an Act of Parliament, and we sincerely hope that it will be the last. Had the Council in the first instance adhered to the pattern of the Steel Frame Act, and restricted their proposals to permissible stresses and the practical details of fire resistance, the regulations might have been in force years ago. A vaulting ambition to control mathematics and theory by legislation has overleaped itself. The number and severity of its falls in the privacy of negotiations with the L.G.B. and the four Institutions (or, as the Council always patronisingly terms them, the "technical societies") only concern those who are sufficiently curious to compare the various drafts. But when once the code is approved, its rigid insistence upon admittedly imperfect theory, and upon formulæ which are almost certain to become obsolete in the near future, will cease to be a mere matter of purely local interest, limited to the design of a few buildings in London. As the first and only British code, emanating from the chief city of the Empire, its merits or demerits will be a matter of Imperial concern, and no effort or sacrifice must be spared to render it creditable.

The want of flexibility in the code, and the absence of any machinery for appeals, are patent defects. It could scarcely be contended that our knowledge of reinforced concrete is more complete than our knowledge of structural steelwork, or that it is unreasonable that designers should demand the same right of reasonable variation which is specified in the parent Act regulating steel-frame design. At any rate, we believe that no dissentient voice has ever been raised

against the frequent demands in the technical Part that the regulations should be at least as flexible as those controlling steelwork construction, that they should be subject to similar appeal, and should limit themselves to a short definite period of years. The persistent omission of the Council to submit to the L.G.B. clauses embodying such very reasonable suggestions savours more of Bumbledom than of statesmanship. We understand that the Council have been advised that there are "legal difficulties" in the way. Then why not formally submit the clauses demanding, and throw upon the Board the onus of excising them? We venture to think that the President would have a little cause to tremble for his post if he were to do such benevolent "illegality." Even if he refused to do so, the Council would at least have put it right with the public. The argument is frequently adduced that the Council can at any time make amending regulations if the need should arise. Possibly so, but subject of course to "legal difficulties." But any future Council have the energy and moral strength to discredit publicly their own regulations by amendments? Will they not probably do the same as other public bodies have done, when faced with a similar difficulty, and shut their eyes to breaches of obscure clauses, whilst taking credit for the fair and reasonable way in which their officials administer without friction an intricate code bequeathed to them by their predecessors?

To attempt to examine the whole of nearly 100 clauses would weary our readers no less than ourselves, but there are some apparently innocent details which might have very serious results. The proposed drastic reductions of permissible stresses on columns, which fortunately would, for economic reasons, have but little effect upon beams and floors, but their effect on columns would be almost extreme. In an article in the "Engineer" of July 16 it was shown that not only would the cost of columns be enormously increased but it would be impossible to design some columns at all. Regulations to discourage the use of reinforced concrete might appeal to some people, but that is hardly the object of the Act. The method by which the Council have met the opposition to their present proposal of adding two new reduced values to the modular ratios seems decidedly ingenious. Instead of three values to complicate calculations, we are faced with all the variations of a sliding scale, and the natural ambition to be a district surveyor is once again chilled. It would be interesting to know how many members of the Building Act Committee appreciated that, in the great majority of cases, lowering the modular ratios means a *reduction* of the factor of safety, yet how many thought they were increasing it. It would certainly strengthen a few unduly slender beams, but beams and slabs which have been des-

due regard to cost are not shallow, and their length is determined by the steel and not by the concrete. A lower modular ratio would enable a designer to cut down the steel without seriously affecting the concrete. We would venture to urge most strongly on the Council the advisability and even the duty of making any sacrifices in order to get the regulations issued in a satisfactory form without another year's delay. The whole of the theoretical clauses are highly contentious and wholly unnecessary; their pseudo-scientific respectability is ephemeral, and they will probably soon be obsolete. If the pruning knife were used unflinchingly and the clauses unanimously handed were grafted on, the proposals would doubtless very soon receive the approval of their many friends and the consent of the Board, and they might be expected in the future to be regarded both as evidence of the foresight of the Council and as a credit to British technical knowledge.

* * * * *

the profession will, we are sure, cordially endorse the kind feeling which has prompted Mr. Ernest Newton and the members of the Council of the Institute to send a letter of sympathy to the two chief architectural societies in France, expressing sympathy with them, and with the French nation in general, on the account they have sustained by the wanton acts of the German Army. "It is impossible to express in terms of moderation," says Mr. Newton, "the feelings with which not only British architects but the whole of our countrymen have received the news of the ruthless destruction of noble buildings which have hitherto escaped the ravages of time and the violence of war. These acts of barbarism are in themselves another proof of that the German aggression is in reality an attack upon the common civilisation of Europe, and our knowledge of this fact has confirmed the British people in their determination to carry on the War, at whatever cost, until the fall of German militarism has secured for Europe some measure of security against so considerable a menace to the peace and happiness of the world." This letter of sympathy is acknowledged in courteous terms by the presidents of the two societies. Jacques Hermant, replying on behalf of the Société des Architectes Diplômés par le Gouvernement, after expressing their "profound esteem" and "unalterable friendship," goes on to say they feel convinced that in the "barbarian hordes" retire they will respect property and will destroy the treasures that still remain in their hands, "because it is impossible to see any lack of reason in those who, proclaiming honour to be in word, proceed to demolish the finest works as a means of vengeance for their lack of success. And it is on that account that we must carry out our apportioned task—the crushing of German militarism. Confident in the final issue, we shall fight to the end, for civilisation and the welfare of humanity. And the monuments which we shall raise in the calm of Peace shall hymn victory and celebrate the liberation of the peoples of Europe." M. Laloux, on behalf of the Société Centrale des Architectes Français, speaks of the indignation with which the whole world has learnt of these senseless acts of vandalism perpetrated on the most precious jewels of French architecture, and concludes with an expression of especial gratification at the kind thought of the Institute in associating themselves with the vehement protest of the whole profession.

* * * * *

We have more than once drawn attention to the serious injury which is being done to the building trade by the holding-up of Government and municipal work, and a resolution at a recent building trade meeting at Bristol serves to emphasise the point. The resolution is as follows: "That this committee is of the opinion that all public works, such as schools, etc., which have

already been sanctioned, but temporarily stopped owing to the War, should be put in hand forthwith, in order that the distress which at present prevails in certain sections of the building trade may be relieved." Everyone who fully realises the present situation will agree that it is essential for the nation to husband its resources, and that expenditure on luxuries should be either altogether eliminated or very considerably reduced. At the same time, it is equally necessary to keep the trade of the country going. The holding-up of building contracts is in direct opposition to this latter necessity, because it is not only throwing operatives out of work, but is also inflicting great loss on master-builders, on architects, on surveyors, and on business firms who are concerned with the manufacture and supply of building trade materials. We think, therefore, that strong representations should be made to the Local Government Board to modify their present attitude. Too great stress cannot be laid on the fact that whatever may be the increased cost of building now, it will be still higher after the War. The innumerable enterprises which have been held up will then be started again; everyone will want work done at once; and the result will be a glut in the building industry, with consequent increased costs. Hence the good sense in proceeding now with the schemes in hand.

THE REBUILDING OF BELGIUM.

In view of the great interest aroused by the series of articles on the rebuilding of Belgium which recently appeared in our columns—written by M. Léon Lootens, an eminent Belgian contractor for public works, in collaboration with M. Henri Volckerick, legal adviser to an important association of Belgian contractors—we decided to reprint the articles in booklet form. This booklet is now ready, and copies can be obtained from our offices, 27-29, Tothill Street, Westminster, price 1s. net. The information contained in it is essentially practical in character, and should be studied by all British firms who wish to take advantage of the immense opportunity they have to acquire a large volume of trade in connection with the rebuilding of Belgium. The following quotation from the preface serves to emphasise the special points at issue: "Before the War the building industry in Belgium was very largely financed by Germans. With their acknowledged business acumen the Germans made themselves familiar with the needs of Belgium, and supplied material and plant to Belgian builders on special terms of credit. In this way they gained a position in Belgian trade far ahead of that of any other foreign country. . . . The Belgians are determined not to take up again their business relations with the Germans; they look to this country for the help they will need; and they will be eager to extend a great welcome to British traders. It will depend entirely upon British firms themselves whether they seize the chance thus offered to them. They will need to make themselves familiar with Belgian requirements, by either sending special representatives to Belgium immediately the War is over, or by appointing agents there to act on their behalf. It will be futile to wait for the trade to come here, because in the meantime other foreign firms will secure the market. From the outset we must take a bold lead and be ready to meet German competition on its own basis of cheapness, adaptability, and efficiency. In the past, unfortunately, British firms have not shown sufficient flexibility in opening up foreign trade. Let us hope that the War will clear away the old prejudices and the old lack of initiative. With a strong new impulse, British manufacturers can show that they are able to meet any competitors, and certainly in the case of the rebuilding of Belgium they will have a unique opportunity, of which they should take the fullest advantage."

HERE AND THERE.

TIDY up England! That must be a clarion cry after the War. No longer are we to look at civic things in a pettifogging sort of way; no more are we to be so intent upon details, upon what we "like" and what we don't like, that we fail to see the larger scheme. Henceforth we are not to be satisfied with the make-shift and the good-enough. Our railway stations have got to be laid out on ampler lines, made presentable, put tidy and ship-shape. Our streets have got to be kept cleaner and freer from obstructions. The cardboard cows, and all other such unhappy devices of the advertiser, must be swept out of the approaches to our towns. The grimy backyards and unwholesome corners must be put in a wholesome state. The housing problem must be tackled with enlightened vigour, and the fact generally realised that humanity cannot be expected to improve if it is cooped up in tiny rooms and denied the decent amenities of life. All these, and many other things, make up the new programme. It will take time to carry out, and everything will not be done at once in a commendable way. But the War is a momentous occasion, and the period succeeding it should witness the formation not only of a new map of Europe, but also the rise of a higher civic ideal. Everyone must be made to see that the "picturesque" has no place in the modern town. It stands for disorder; we want order: it stands for tumbledownness; we want fitness and spryness: it stands for *laissez-faire*; we want energy and application and thoroughness. Easy fun can be made of this creed. New England is to have its hair combed and parted, and made to look respectable in a wholesale way. The submerged, with their attractions of squalor and raucousness, beloved of the etcher, are to be translated into a prim lower middle-class, enlightened and uninteresting. New England, in fact, is to go like clock-work, and be so dreadfully tidy and correct that it will become inevitably the land of the dull. The hand of Time will never have a chance of smoothing away the rawness, so prompt will the house painter be with his brushes, and the scaler with his blasts of steam and sand. Art indeed will go out when Spick-and-Spanness comes in, says the artist whose eye is only for the "picturesque." As a fact, however, it would be a greatly improved England if the towns and cities could thus be tidied up. I suppose that few will deny the attraction that belongs to the deck of a battleship, where order reigns supreme, or the satisfying interest that attaches to one of those great banks or railway stations of America in which everything is set in its proper place, and kept so. If there be those who love not these things, let them rejoice still in what they see around them in England; let them remember the clean streets and the ample lay-out of Paris, and then pass down Ludgate Hill and the Strand on a wet day; let them arrive at Flushing in the early hours of the morning and find there awaiting them, in a large clean restaurant, every refreshment that the traveller needs, and then let them compare this with the struggle to get a cup of coffee or tea, and an antiquated bun, out of a hole in the wall on Folkestone Pier; let them look on the grimy brickiness of a North Country town, and be sure that these things are good, these things are bound to be; let them contemplate the garish cinema with its hectic slice of drama on the picture-board, the crude letters splattered over every street façade, the endless rows of ramshackle houses that constitute the "lower part" of the town, the sprawling estates beyond. There is great occasion to cry "Tidy up England!" Done properly, the result would be splendid.

Always those "Letters from the Front" are acceptable. They give us glimpses of what life is really like out there, within range of the guns. I read them eagerly. Here is a lively letter from G. D. Gordon Hake, Second Lieutenant in the (Duke of Edinburgh's) 1st Wilts Regiment, which I take liberty of abstracting from the last issue of "The Architectural Association Journal." It is written from "Dorchester House, Park Lane," which, however, is not the town mansion of the Vulliamy, with its celebrated staircase and chimney-piece by Alfred Stevens, but some place in France where the gallant correspondent (who was wounded at the battle of Hooge) basks "in a colonnade some 40 ft. high," as compared with the nothing of his "dug-out." He proceeds: "I have a quite a lot of Maule" (otherwise Mr. H. P. G. Maule, F.R.I.B.A., late headmaster of the A.A. School). "It has come into his own. After going through that hard winter campaign in the difficult capacity of Company Sergt.-Major of the H.A.C., he got his commission in the regiment and was subsequently given the post of Camp Commandant of a certain place which I can name without offending the censor by misquoting an old proverb, 'A "dickie" in the hand is worth two in the "busche."' Here his organising powers, his general keenness were always *en evidence*, and when it was spy-catching, interviewing the Brigadier, turning a foul *estaminet* into a clean billet, he was always on the job and successful. . . . By the way, Maule has now got another staff job, O.C. War Supply, which is one of the most important posts out there at present. The Huns poison the water streams now! You have no idea how useful an architectural training can be at the Front, constructive problems cropping up everywhere—sandbag laying, exact replica of bricklaying—sketch plans of trenches etc. . . . I think the A.A. is doing splendidly. The Journal delivered *in the firing line*, via the railway party, is a great luxury! Let me warn all architects I am speaking with all reverence for the older members—that after the War if we are to return to the drawing board (and most of us will have to return, I fear) we shall need a certain amount of rope; restriction will be intolerable! Send us down to supervise a party (I was almost saying squad) of bricklayers and labourers, preferably those who never joined, and I promise you we will put through it—no reliefs—no hot tea—but a good dig, dig, and when they are not digging they 'stand to spade'!"

* * * *

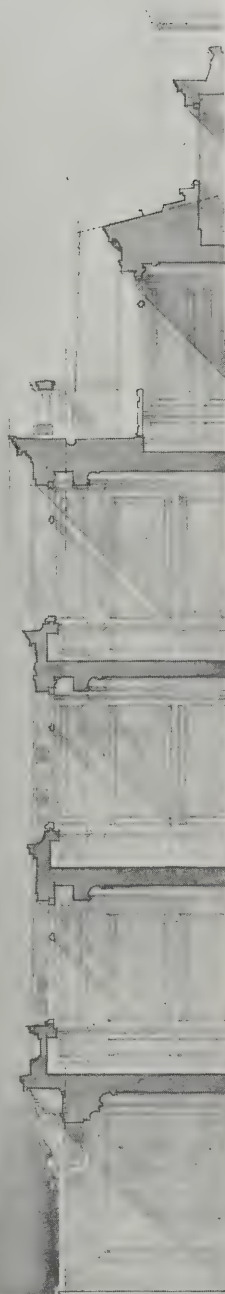
Sad to relate, my remarks on Mr. Voysey's book on "Individuality" have "greatly distressed" a correspondent. "Surely, Sir," writes to the Editor, "one may disagree with and criticise another without being rude and fatuous. From the excerpts 'Ubique' has elected to quote I am impelled to buy the book (when things prove) rather than reject it upon the advice of your contributor." What more could an author wish? I comment on the "sympathetic pang akin to sorrow" which Mr. Voysey experiences at sight of a fallen tree, and I comment on the moral quality enshrined in a fireside poker, and the result is—people are eager to buy a book which is full of such good things. "Surely, Sir," Mr. Voysey must be pleased; the publisher is sure to be pleased; I am pleased (though I deny the soft impeachment of being "rude and fatuous"); "and so home," says of us, like Mr. Pepys, "with much content." It is only necessary to add that an author challenges criticism when he publishes a book, especially as in this case, he himself is not gentle with those whose views differ from his own.

UBIQUE

1915 HARLEY ST
1915 HARLEY ST



ELEVATION



SECTION



PLAN OF GROUND FLOOR
ENTRANCE

PLAN OF BAY
LOOKING UP

SCALE

STANLEY WAGHORN
& KING
CHARING CROSS W.C.

FREDERICK PEPYS COCKERELL, ARCHITECT. FABBRUCCI, SCULPTOR.

(From "Memorials and Monuments," by Lawrence Weaver)

DETAIL OF FACADE TO AN ART DEALER

SCALE HALF INCH TO THE FOOT



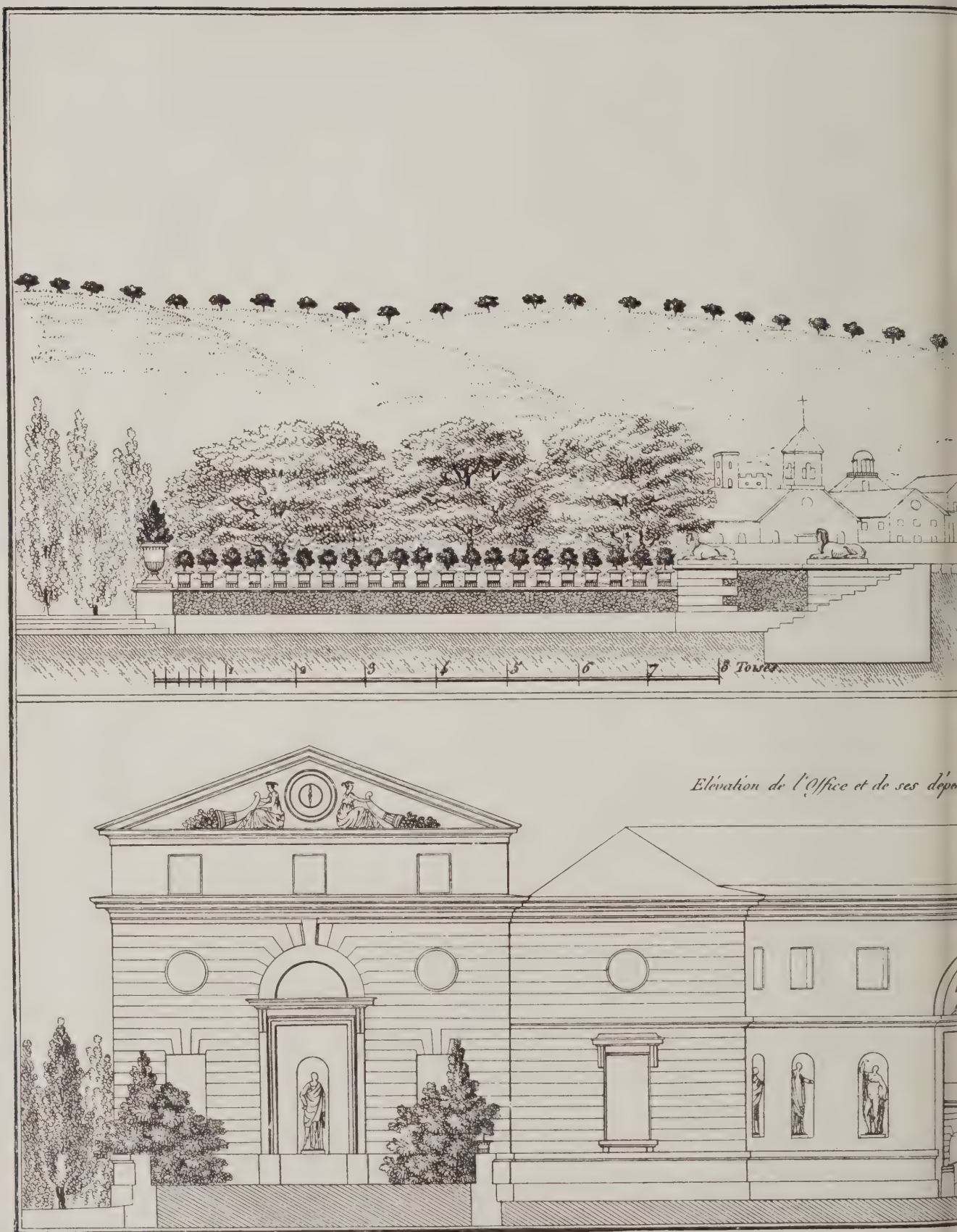
THE ELEVATION PART GROVND AND FIRST FLOOR PLAN

STUDENTS' DESIGNS. XLVII.—FAÇADE FOR AN ART DEALER.
BY GORDON HEMM.

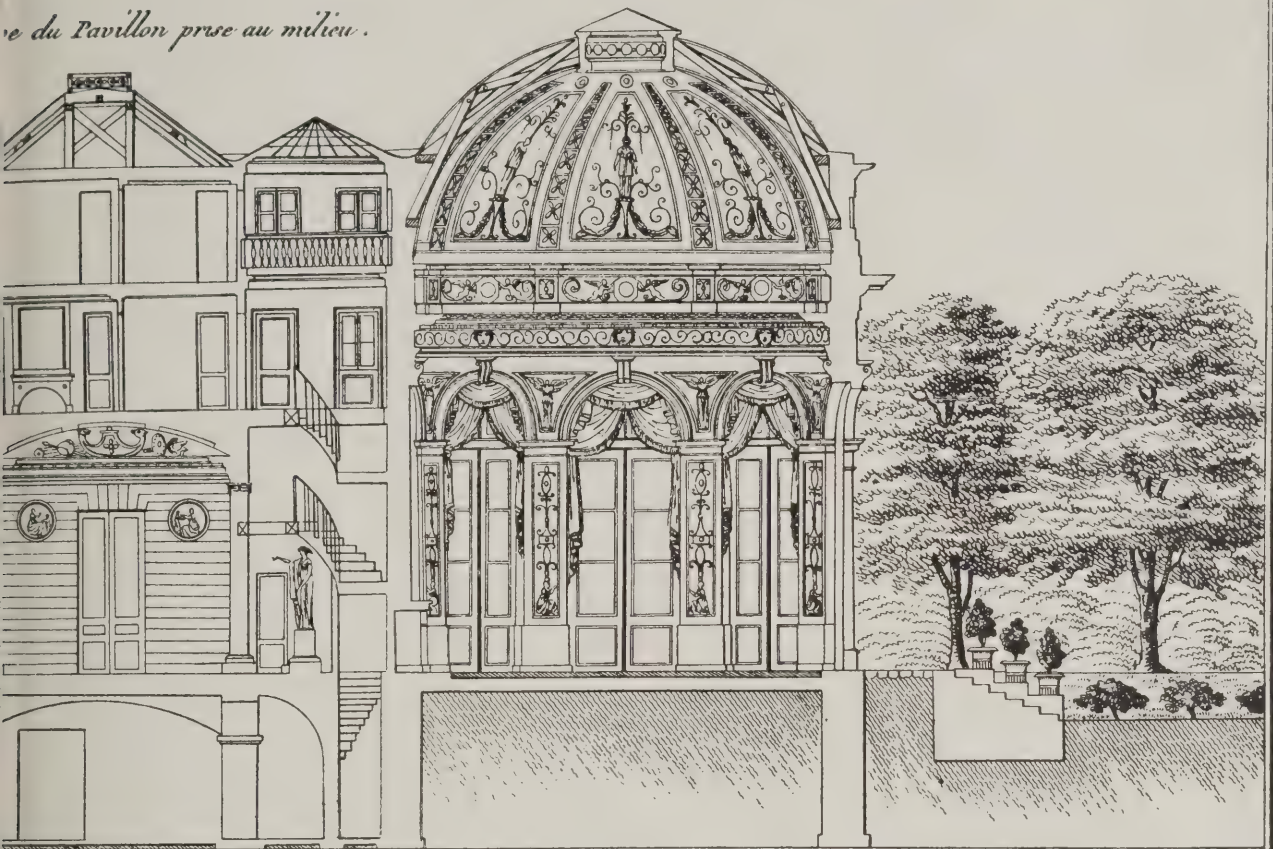


DETAILS OF CRAFTSMANSHIP. XXX.—CARVED FLORAL SWAG IN PINEWOOD (ENGLISH, LATE SEVENTEENTH OR EARLY EIGHTEENTH CENTURY) IN THE VICTORIA AND ALBERT MUSEUM, SOUTH KENSINGTON.

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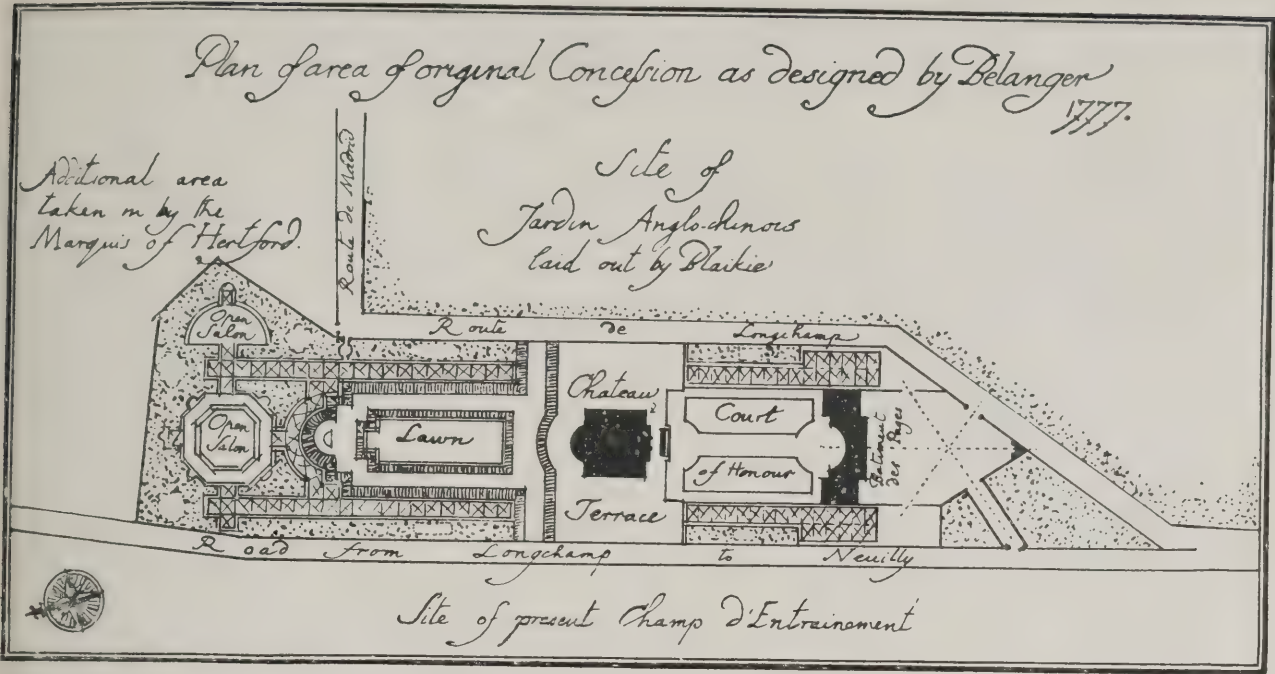
vue du Pavillon prise au milieu.



face au grand Pavillon.



LIBRARY
OF THE
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LA BAGATELLE, PARIS: PLAN OF ORIGINAL SCHEME.

THE PLATES.

No. 19, Harley Street, London, W

HIS is intended to provide separate residential and professional accommodation for medical men. A garage building at the rear of the site will have space for three cars, with chauffeurs' rooms over. The front to Harley Street will be executed in Portland stone, green Westmoreland roofing slates, wrought-iron entrance grilles and front railing, and marble steps leading to entrance. Mr. Stanley Waghorn, A.R.I.B.A., of Charing Cross, is the architect.

Cockerell Memorial Tablet in St. Paul's Cathedral. Charles Robert Cockerell was surveyor to the fabric of St. Paul's for forty-four years, from 1819 to 1863. A white marble tablet to his memory, and that of his wife, were erected about 1873 from a design by his son, Frederick Pepys Cockerell, the sculpture being executed by Fabbrucci. "The main idea of a medalion hung against an Ionic column is an appropriate tribute to the fine classical taste and achievement of Cockerell, and though there is practically no unsculptured space, there is no sense of overcrowding." The effect in the design is the lettering, which is very elegant.

Façade for an Art Dealer.

The design for a façade for an art dealer, by Mr.

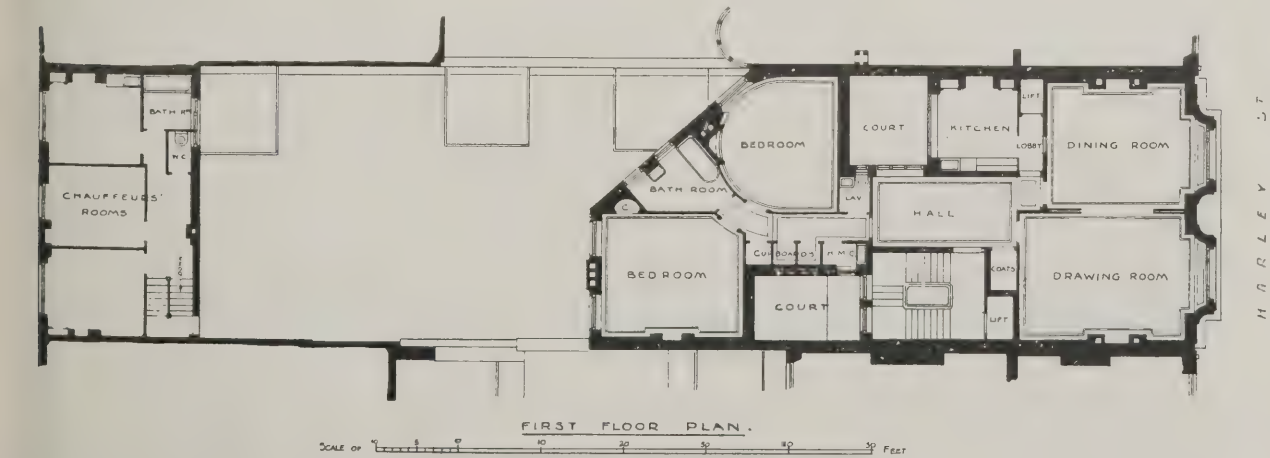
Gordon Hemm, of the Liverpool School of Architecture, is one of those recently approved by the Board of Architectural Education.

Carved Floral Swag.

Though apparently so easy a subject, the design of swags requires a subtle appreciation of what is sufficient boldness: too often swags are made either coarse and clumsy, or thin and wiry. This good example, therefore, is worthy of study. The original was given to South Kensington Museum by Colonel H. H. Mulliner.

La Bagatelle.

This plate supplements the one published in the Journal for July 21, showing the elevations and plans of Belanger's beautiful little building. The upper illustration is a cross-section. On the entrance side (on the left) is seen the vestibule, square on plan, with the staircase hall in the centre of the building, and on the right, next the garden, the chief apartment of La Bagatelle—the circular *salon*, a gem of decoration, with painted panels by first-rate artists, including Hubert Robert. The lower illustration shows the "Bâtiment des Pages," which stood at the entrance end of the *Cour d'honneur*. The inner elevation of this service building to the chateau was concave; underneath were vast cellars necessary to store wine for the drinking bouts of the Comte d'Artois. A plan of the chateau and grounds of La Bagatelle, as originally



NO. 19, HARLEY STREET, LONDON: GROUND-FLOOR PLAN. STANLEY WAGHORN, A.R.I.B.A., ARCHITECT.

laid out, is here given showing Belanger's formal setting, with its treillages and boscages. The "Bâtiment des Pages" was demolished by Sir Richard Wallace who became possessed of the property on the death of his father, the Marquis of Hertford, in 1870, its place being taken by a new and somewhat dull building known as the Trianon. La Bagatelle now belongs to the City of Paris.

Triumphal Arch by Marot.

This is the last of the series of designs for triumphal arches by Daniel Marot which we shall publish. They all display the same merits and faults, the merits consisting for the most part in the great variety of treatments they illustrate, the faults being a noticeable coarseness in the embellishments. Nevertheless, it is a very interesting series, and should prove of practical service when the time comes for the erection of triumphal arches.

Manchester Old Town Hall Mouldings.

This, we think, is an especially useful sheet in connection with the detailing of modern designs in the classical style.

ARCHITECTS' REGISTRATION ACT FOR NEW YORK.

ONE of the most important Acts concerning architects that has ever been put into effect in the United States is that amending Chapter XXV. of the Laws of 1909 of the State of New York, entitled "A Law Relating to General Business." This amendment was drawn by the counsel for several of the associations of architects in the State of New York, including the various chapters of the American Institute of Architects, the Architectural League of New York, the New York Society of Architects, and possibly others, and it has introduced into the State of New York the practice of registration of qualified architects and a provision that no person shall practise under the title of "Architect" or "Registered Architect" without such registration.

Section 77 provides that "any person residing in or having a place of business in the State, who, before this article takes effect, shall not have been engaged in the practice of architecture in New York State, under the title of architect, shall, before being styled or known as an architect, secure a certificate of his qualification to practise under the title of architect, as provided by this article. Any person who shall have been engaged in the practice of architecture under the title of architect, before this article takes effect, may secure such certificate in the manner provided by this article. Any person having a certificate pursuant to this article may be styled or known as a registered architect. No other person shall assume such title or use the abbreviation R.A., or any other words, letters, or figures to indicate that the person using the same is a registered architect."

Section 78 provides that the examination and registration of candidates for certificates shall be under the supervision of the Regents of the State University, conducted by a board of five examiners, all of whom shall be architects who have been in active practice for not less than ten years previous to their appointment.

Section 79 provides that a citizen twenty-one years of age of good moral character may apply for examination or certificate of registration, but before securing such a certificate, he must have graduated from high school and completed the equivalent of two years of college. He must further have had five years' practical experience in the office or offices of a reputable architect or architects. Graduates of a recognised architectural school with three years' practical experience are all eligible for examination.

Sub-section 2 of Section 79 provides for the registra-

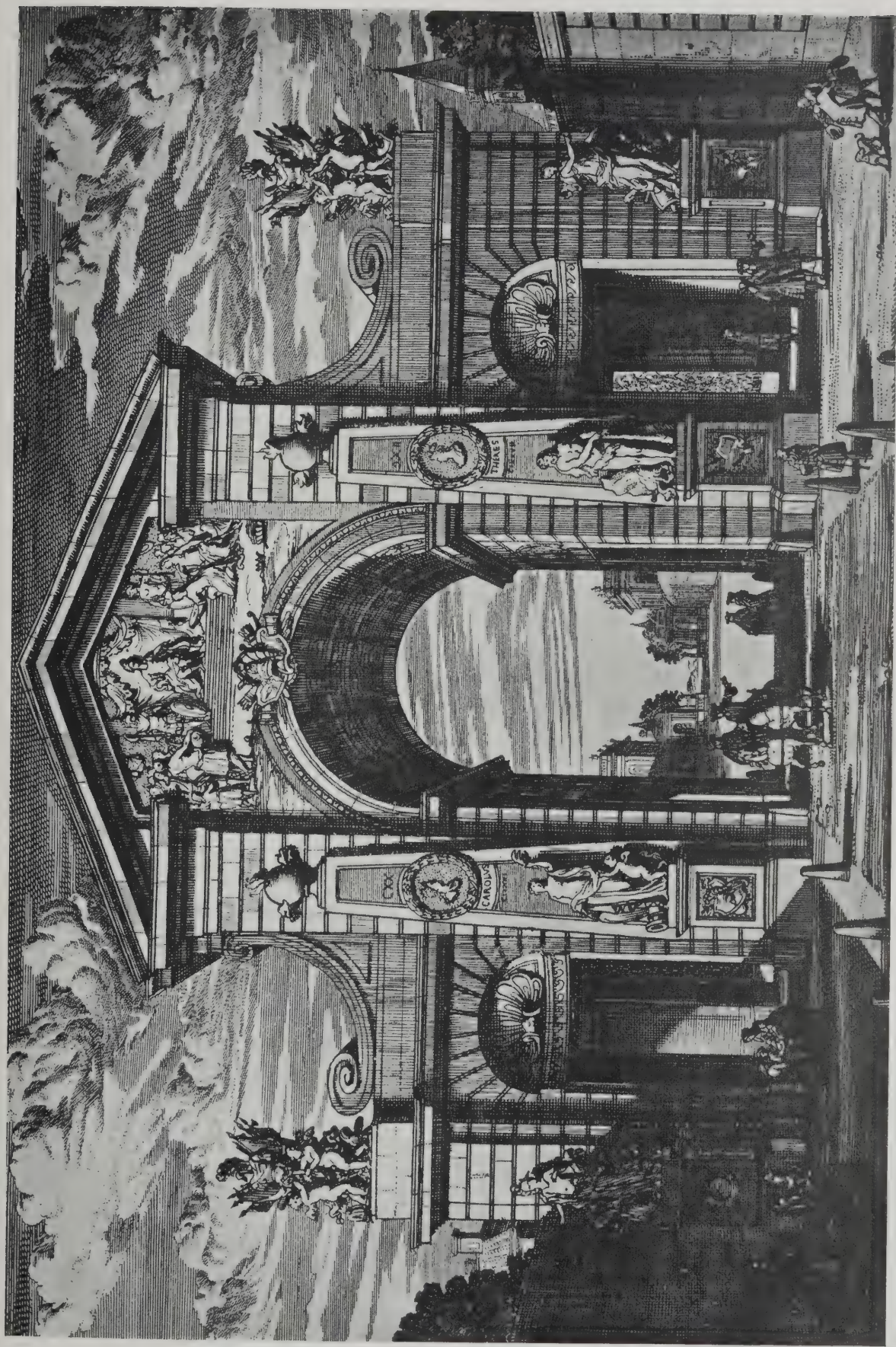
tion or certification of architects registered in another State or country, where the standard of qualification is not lower than those required by the Board of Examiners under this article, and Sub-section 3 provides that "The Board of Examiners in lieu of examinations shall accept satisfactory evidence as to applicant's character, competency, and qualification and that he has been continuously and exclusively engaged in the practice of architecture for more than two years next prior to the date when this article shall take effect; or satisfactory evidence that the applicant has been actually and exclusively engaged in the practice of architecture on his own account, or as a member of a reputable firm or association, for more than one year prior to the date when this article shall take effect; providing the application for such certification shall be made within one year of such date."

In Section 79 it is also provided that every architect receiving a certificate shall file the same with the County Clerk of the county in which he resides and maintains a place of business. And it further provides that his certificate may be revoked if such action is recommended by the Board of Examiners after ten days' written notice to the holder thereof, and after hearing before the Board of Examiners, upon proof that such certificate has been obtained by fraud, misrepresentation or upon proof that the holder of such certificate has been guilty of felony in connection with the practice of architecture.

Commenting on the new law, "Architecture" (New York) says: "Of all the State laws governing the practice of architecture this is probably the fairest as well as in some respects the strictest. In the first place the usual custom in Registration Acts has been followed, in that this Act does not attempt to prohibit any one from drawing plans and specifications for another person provided he does not call himself architect or practise under that title. This provision is certainly very fair, since in many country towns as well as in the City of New York, there are often times when an owner finds it expedient to have some painter or contractor in whom he has confidence prepare such drawings as are necessary to form a basis of a contract, or as may be necessary for filing with the local Building Department. Architects do not wish a law prohibiting owners from proceeding in this manner any more than they desire to prohibit contractors from performing services which they have been accustomed hitherto to perform, but they do feel it is essential that the public should know that an architect is a person of special training, performing special duties which should not be equally well performed by any other person. The old legal maxim of 'caveat emptor' cannot be applied to the whole profession, since there will be no future reasonable evidence that all architects practising in the State of New York have at least the knowledge and training necessary to execute their work satisfactorily.

"The second paragraph should be extremely satisfactory to the profession, and to the general public, that the supervision of examinations has been placed in the hands of the State University. New York is particularly fortunate in having had an extraordinarily strong Board of Regents, composed of able and decently paid and outside the influence of politics. The very fact that these men will act in an independent capacity is assurance that the examinations will be fair, rigid, and searching, and as satisfactory a test of ability as any examination of an architect can be. The examination, however, can well determine an architect's ability in pure design, and the publication of the requirements which the Board of Examiners will set up will be awaited by the architectural profession with warm interest.

"The qualifications requisite for admission to the examination have been made rather more stringent than those in other States. In New Jersey, for example, a diploma or other evidence of graduation



DESIGNS BY DANIEL MAROT. XIII.—A TRIUMPHAL ARCH.

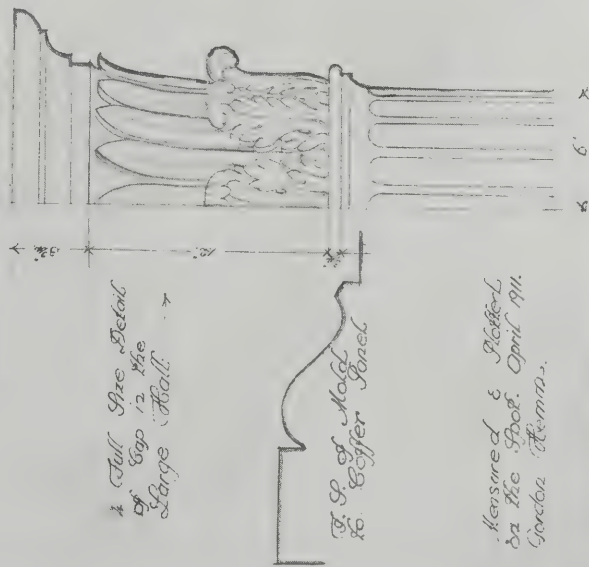
Manchester Old Town Hall. Details of Mouldings & Enrichments in the Large Hall.

1/2 Full Size Enrichment over
Windows in the Large Hall
Facing Cross Street.



Note: This en-
richment is carved
in wood.

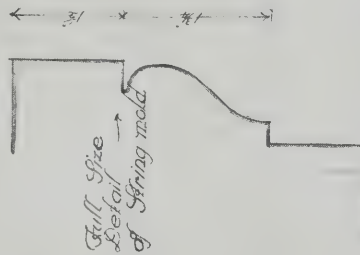
Half Elevation.



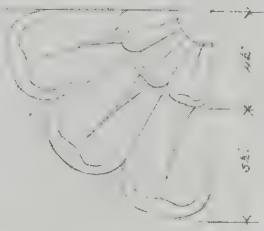
1/2 Full Size Detail
of Top 1/2 the
Large Hall.

1/2 of Mold-
ing to Buffer Panel

Measured & sketched
on the spot, April 1911.
(Jordan Hemm.)



Full Size
Detail
of String mold



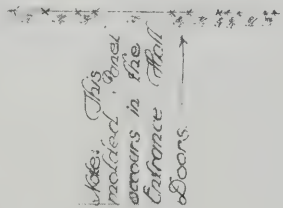
1/2 of 1/2 Detail of
Rosette in the Large
Hall. (1/2 Master).

Note: All the Enrichments are
modeled in plaster in Large Hall.



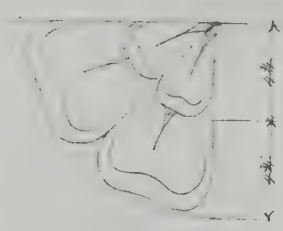
Half Elevation

1/2 Full Size Enrichment
to Cornice Top in the
Large Hall.

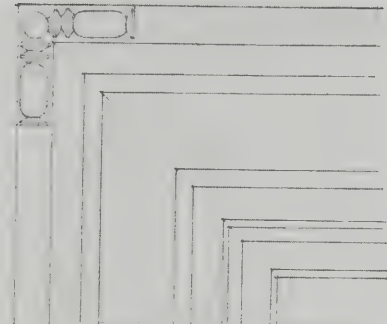


Note: This
molding and
panels in the
entrance Hall
Doors.

1/2 of 1/2 Detail of
Panel to Large
Door (Entrance Hall)



1/2 Full Size Detail
of Rosette in the
Large Hall.



in a full course of architecture may be accepted as satisfactory evidence of a competent knowledge of architecture, design, and construction. In New York it must be supplemented with at least three years' practical experience. In New Jersey, again, a person who was engaged in the practice of architecture when the Act was passed, and presented an affidavit to that effect, was entitled to receive a certificate without further test. In New York the Act provides that an architect must have been engaged in the practice of his profession for more than two years before the passage of this Act, and must also present satisfactory evidence as to character, *competency*, and *qualifications* before he is entitled to such a certificate. The New York requirements seem to be remarkably satisfactory in this respect.

Further, the New Jersey fees and those in some other States are payable annually, while in New York the fee at the issuance of the certificate is all that is necessary; this is not only convenient to the practitioner, but also seems fairer, since in New Jersey violations of the Licensing Act are prosecuted by the licensing board from the funds thus collected, while in New York violations of the law are not treated as being different in kind than violations of any other law, and are prosecuted quite properly by the same State officials who are concerned with other violations of the statutes.

In one other particular this Act seems fairer than the New Jersey Act, or than those in most other States; this Act refers to architects residing in or having a place of business in New York, while most of the other State Acts provide that any person practising architecture, that is preparing plans and specifications and superintending work, must have a local certificate. In the matter now stands, a New York architect who is making drawings for buildings in the States of New York, New Jersey, Illinois, and California will have to secure four licences, while the New Jersey architect can practise in New York without licence.

Another comparison of the New York and New Jersey Acts which is of interest is the question of firms of architects. In New Jersey the law provides that each member of a firm shall be licensed; in New York there is no mention of a firm at all, and in neither State is there any mention of a corporation engaged in the practice of architecture. It would be interesting to discover what is the legal status of a corporation in this connection.

The passage of this Licensing Act has been attended with some difficulties. The New York Society of Architects in a circular letter announcing the passage of this Bill state that they have been working continuously for nine years to effect its passage. The Bill was actually introduced into the Legislature last year, and failed; being this year reintroduced, it was passed by both Houses, signed by the Governor, and became a law on May 3."

CORRESPONDENCE.

The "Cour Batave," Paris.

the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.

SIRS,—I was greatly interested to see your production of Krafft's rendering of the "Maison," as it was more generally known, the "Cour Batave," in the issue of the Journal for July 28. You do a great service to the profession in publishing such plates of works which are not accessible to the majority of students without a visit to the Library of the Royal Institute or to some other similar collection of scarce books.

The "Cour Batave" stood on the site of the ancient church and brotherhood of the Saint-Sepulcre, founded by Louis de Bourbon, Comte de la Marche, as far back

as 1325. Though the choir dated from the foundation, the church was long a-building and the nave and chapels were not completed until 1655. There was nothing remarkable about it, according to Piganiol, but the doorway, of which one of Couché's beautiful and accurate engravings will be found in Dulaure's history (Edn. 1823, Vol. III., p. 162). Under the law of 1789 it became national property and was one of the portions sold piecemeal before the division and sale of the Church lands were regularised. The "plan des Artistes" shows a new street on the site, although at the date of the Commission's recommendations it had been long since sold and transferred to the Dutch merchants, who built upon it the Cour Batave. The building was finished (though the whole scheme shown by Krafft was never carried out) in 1795, and was the modest masterpiece of the architects Sobre and Happe; it is pleasant to think that those who have done good and honest work may still be spoken of by their brethren more than a century afterwards, when their building itself has long since vanished. The centre court embraced three bays of the front, although the actual opening to the rue Saint-Denis was only of one bay, and the plan is a very good example of commercial design of the time, though it might hardly commend itself to the London County Council of to-day. The elevation is simple and appropriate, but suffers from the awkward distribution of the superstructure over the three bays right and left of the centre, as will be seen at once by projecting the shadow upon the courtyard and entrance. The last windows at each end call for detachment from the main range by a vertical break, however slight, which would recognise and repeat the return fronts of the centre. The view in Legrand and Landon (Edn. 1818, Vol. II., p. 229) shows this fault very clearly.

The "Cour Batave" disappeared in 1854-6, when the Boulevard Sebastopol was formed, but its site may be identified by the curious as the portion of the rue de Cossonnerie (vicus Cuoconneriae, the Poultry market) which connects the Boulevard with the rue Saint-Denis.

JOHN W. SIMPSON, F.R.I.B.A.

Gray's Inn, W.C.

Shop Window Lighting in War Time.

To the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.

SIRS,—In December last I sent you a letter in regard to shop window lighting in War time, dealing with the amateurish attempts made by shopkeepers to conform to regulations. I drew attention to the much favoured method of wrapping tissue paper around bare lamps, and pointed out that not only was this very ineffective, but a distinct source of danger. The note of warning then sounded has been amply justified during the past week, when the L.C.C. Fire Brigade was called to an outbreak of fire caused by paper crinkled around electric lamp bulbs in a shop window. One is led to wonder how many small outbreaks, not necessitating the attendance of the fire brigade, have been caused by this highly dangerous practice. The system I mentioned in my December letter was the scientific lighting of shop windows by means of concealed lighting units placed high in the window. This method ensures the effective lighting of the articles displayed, with complete control to accord with the lighting restrictions of the police, and has the additional merit of being safe and free from danger of fire. A large number of shops have been lighted on this approved plan and give absolute satisfaction to all concerned.

F. W. WILLCOX,

General Manager Lamp and Supplies Dept.

British Thomson-Houston Co., Limited.

"Mazda House," 77, Upper Thames Street.

R.I.B.A. JUNE EXAMINATIONS.

Pass List.

The following are the results of the June examinations of the Royal Institute of British Architects:

Preliminary.

The Preliminary Examination, qualifying for registration as Probationer R.I.B.A., was held in London, Bristol, and Manchester on June 8 and 9. Of the 80 candidates admitted, 36 were exempted from sitting, and the remaining 44 examined with the following results:

	Examined.	Passed.	Relegated.
London	27	18	9
Bristol	8	5	3
Manchester	9	5	4
	44	28	16

The passed and exempted candidates—numbering 64—are:

H. M. Aitchison, Brighton.	F. O. Lawrence, Liverpool.
F. W. H. Allison, Leeds.	H. M. Lawrence, Tamworth.
G. Anderson, Norwich.	E. M. Lawson, Chester-le-Street.
M. H. N. C. Atchley, Bristol.	E. W. Lewis, Weymouth.
W. C. Ayers, Bradford.	T. L. Marshall, Cambridge.
N. A. Barber, Derby.	H. A. N. Medd, Abingdon.
J. A. Bateman, Hampstead.	W. T. Morgan, Maesteg.
H. E. Bennett, Cheltenham.	L. G. Morrow, Berkhamsted.
C. A. Benson, Cardiff.	J. Napier, Glasgow.
H. E. Booth, Brighton.	C. Noble, Manchester.
C. R. Brown, Colchester.	H. W. Papworth, March, Cambs.
C. Burkitt, London.	G. H. W. Peever, Shrewsbury.
R. Byrom, Bury.	H. V. Pite, Ealing.
A. K. Chaudhuri, London.	G. R. H. Rogers, Swansea.
W. E. Cross, London.	K. W. Rose, Halesowen.
D. O. H. Davies, London.	W. Schofield, London.
L. M. Evans, Birmingham.	R. P. Shaw, Bathgate.
H. Fieldsend, Pontefract.	C. Slater, Derby.
N. C. Fisher, South Ascot.	D. F. Somerset, Suva, Fiji.
A. R. Goldthorpe, Halifax.	J. Stevenson, Ayr.
A. Green, Oakworth.	H. J. Stribling, Slough.
E. H. Hardy, London.	C. P. Tanner, Newcastle-on-Tyne.
S. G. S. Harris, Parkstone.	G. S. Taylor, Kierkeady.
J. M. Harvey, Glasgow.	A. Treharne, Briton Ferry.
A. A. N. Haywood, London.	C. C. Vine, Exeter.
A. C. Holliday, Leeds.	A. Waddicar, Bolton.
C. R. Hollingsworth, Barnsley.	F. V. Ward, Suva, Fiji.
J. M. Honeyman, Edinburgh.	E. V. Ward, Swansea.
E. K. D. Hughes, Bournemouth.	S. Westgarth, Cardiff.
R. Jepson, Derby.	F. J. White, Exeter.
C. L. Jones, Cwmbran.	A. Williams, Ogmores Vale, Glam.
S. S. Kelly, Sutton, co. Dublin.	J. H. Yardley, Stourbridge.

Intermediate.

The Intermediate Examination, qualifying for registration as Student R.I.B.A., was held in London, Bristol, and Manchester from June 4 to 11. Twenty-one candidates entered, with the following results:

	Examined.	Passed.	Relegated.
London	15	5	8
Bristol	3	2	1
Manchester	5	2	3
	21	9	12

The passed candidates are as follows, the names being given in order of merit:

A. T. Philp, London.	H. E. Todd, Almondsbury, near Bristol.
B. T. Francis, St. Austell.	H. Bannister, London.
H. A. Johnson, Blackburn.	G. G. Winebaum, London.
J. G. Warwick, Peterborough.	H. Metcalfe, Blackburn.
	J. A. Emes, London.

The number of failures among the relegated candidates was as follows:

A. Principal Styles and General History of Architecture	1
B1. Simple Applied Construction	8
B2. Theoretical Construction	8
C1. Historical Architecture:	
(a) Greek and Roman	2
(b) Byzantine and Romanesque	—
(c) French and English Gothic	—
(d) Italian, French, and English Renaissance	—
C2. Mathematics and Mechanics	1
C3. Design	5

Exemptions from the Intermediate.

The following Probationers, having produced satisfactory evidence of their training and qualifications, were exempted from

sitting for the Intermediate Examination, and have been registered as Students:

B. N. Dey, Glasgow (Government C.E. College, Sibir).	J. M. Honeyman, Edinburgh (Glasgow School of Architecture).
B. L. Dharma, Bombay (University of Allahabad).	F. O. Lawrence, Liverpool (Liverpool University).
T. F. Ford, London.	E. Louy, London (King's College).
W. Gourlay, Glasgow (Glasgow School of Architecture).	J. Napier, Glasgow (Glasgow School of Architecture).
T. C. Hardy, Glasgow (Glasgow School of Architecture).	R. P. Shaw, Bathgate (Edinburgh College of Art and Heriot Watt College).

In accordance with the special concession granted by the Council to Probationers on military service who are candidates for the Intermediate Examination and whose Testimonies of Study have been approved, the following were also exempted:

S. Barlow, "A" Company, Army Service Corps, Aldershot.	F. W. MacKenzie, Seven Kings (Middlesex Regiment).
H. Berry, Now Barnet (Queen Victoria Rifles).	R. E. Mansfield, Leigh-on-Sea (Royal Engineers).
H. Burleigh, Hastings (University of London O.I.C.).	C. J. F. Martindale, Carlisle (Royal Engineers).
T. L. Daniel, Ilford (Royal Naval Air Service).	J. F. L. Mercet, Blackburn (Royal Engineers).
A. R. C. Eaton, London (Bedfordshire Regiment).	E. A. Ramsden, Leeds (West Yorks Regiment).
D. C. Hall, Leeds (Army Service Corps).	W. J. Reed, Blaydon-upon-Tyne (Royal Naval Air Service).
H. J. Hall, Penarth (Glamorgan Yeomanry).	F. W. Rees, Pontypridd (Royal Engineers).
W. B. Hall, London (Royal Fusiliers).	G. D. Shields, Bradford (Royal Engineers).
W. Hope, Cultercoats (St. John Ambulance Brigade).	A. Smith, Luton (Royal Engineers).
R. Hunt, Oxford (Oxford and Bucks Light Infantry).	J. A. C. Taylor, Oldham (10th Bn. Manchester Regiment).
H. E. Jarvis, Huddersfield.	H. F. Wharf, Hull (East Yorks Regiment).
H. E. A. Larkin, London (13th County of London Territorials).	R. C. White, Aylesbury (Royal Bucks Hussars).
	P. J. Williams, Carmarthen (Welsh Regiment).
	T. S. Wood, Handsworth Wood (Royal Field Artillery).

Final and Special.

The Final and Special Examinations were held in London from June 24 to July 2. Of the 52 candidates examined, 27 passed, and the remaining 25 were relegated. The successful candidates, given in alphabetical order, are:

P. J. Adams, Woodford.	C. E. Nichols, Sheffield.
H. Andrew, Hull.	C. L. Pace, London.
P. F. Balsara, London.	T. Reive, Manchester.
J. Bennett, Glasgow.	M. D. Robertson, London.
R. Bruce, London.	A. D. Robinson, Thorpe-le-Soken.
E. G. Catchpole, Ipswich.	H. R. Sayer, Southampton.
A. McL. Duncan, Lenzie.	*K. Takekoshi, London.
E. C. Francis, London.	A. I. Turner, New Barking.
J. S. Fyfe, Sheffield.	H. F. Walker, London.
J. H. Horniman, London.	J. H. Wardron, London.
S. H. Lowth, London.	F. Williams, Cardiff.
R. W. MacLaurin, London.	W. C. Young, Heaton Moor.
P. H. Meldrum, London.	
C. H. Mitchell, London.	
E. P. B. Musman, London.	

* Under a special Regulation this gentleman, being a foreign subject and not eligible for membership, will be granted a Certificate.

The number of failures among the relegated candidates in the Final Examination was as follows:

A. Design	12
B. Construction:	
(1) Foundations, Walls, Roofs, etc.	17
(2) Iron and Steel	19
C. Hygiene	19
D. Properties and Uses of Building Materials	9
E. The Ordinary Practice of Architecture	13
F. The Thesis	3

The Final: Designs Approved.

The Board of Architectural Education announce that the designs submitted by the following Students have been approved:

SUBJECT XXI.

(a) Design for a Bandstand in a Public Park.

C. J. Brandon.	G. Munguia.
J. A. Dartnall.	F. Reixa.
N. F. C. Dav.	F. Traimer.
R. A. Duncan.	G. B. Tubbs.
L. D. H. Hutton.	F. Wilkinson.
A. D. Kellock.	F. G. M. Woodhouse.

(b) Design for a Hostel for Male Students on a Detached Suburban Site.

M. C. Sunter.	G. Vinden.
R. V. Taylor.	J. Wilson.

MEMORIALS AND MONUMENTS.

Rather a good point was made the other day by the Bishop of Southwark, when unveiled and dedicated two memorial windows in the church of St. Mary, Brighton. He said: "What a beautiful thing it is, the enrichment of our church with memorials put up from generation to generation! . . . They make churches seem almost alive. . . . Perhaps the idea is not very clearly expressed, but one feels instinctively what the bishop meant; and we should hold up to him, as against certain austere purists, who would tolerate nothing whatever in church except such things as serve directly the purposes for which the building was erected, that memorials do add human touch which is beyond the scope of architecture pure and simple.

In almost any church the first and thing that a visitor sees is some kind of memorial. He will remember that what he has forgotten everything else. He is interested aroused by Mr. Weaver's volume of "Memorials and Monuments." It is a book full of fine examples, drawn from the work of seven centuries, beginning with the tomb of Henry III. in Westminster Abbey, and ending with memorials belonging to the day before yesterday. It is gratifying to find worthily included many examples by modern architects.

Among the finest things in the book are memorials which display the skill of James Gibbs and William Kent—among the masters of the eighteenth century—and of William Lethaby, T. R. Spence, Rossiter Wright, Basil Oliver, Cyril A. Farrer, L. K. Hall and S. K. Greenslade, Edward Warren, Thomas Garner, G. F. Bodley, J. F. Bentley, Sir Thomas Jackson, J. J. Burnet, Clough Williams-Ellis, F. Eden, E. Guy Dawber, A. Winterburn, H. S. Goodhart-Rendel, Richardson Gill, Willink and Thicknesse, W. C. Watson, J. Oldrid Scott and Sons, Robert Lorimer, George Jack, Sir Charles Nicholson, Norman Shaw and John Clayton, S. P. Cockerell, R. W. Mervyn Macartney, Herbert Baker, Ronald Blomfield, Thackeray Turner, Edgar Blom and Fernand Billerey, Edmund H. Sedding, G. Gilbert Scott, John Atkinson and Alexander—among the moderns. We illustrate among our plates this week the striking Cockerell memorial in St. Paul's, of which some particulars are given on page 59.

Of cardinal importance in a memorial is the inscription, which, seldom or never absent, possesses inherent values that make or mar the monument. Weaver has an interesting chapter on lettering, discussing learnedly and astutely the relevancy to varying circumstances of Roman, Lombardic, or Gothic, of incised or raised characters, and so forth. Merely for its large collection of beautiful examples of lettering, the book is worth acquiring. Few and evil are the Gothic specimens included. For some reason or other. Italian influence is supreme in the domain of the Gothic examples seen in the book, and look very unhappy. Although in such a work the text is necessarily of secondary importance, the fact has not daunted the author, who has matter is here, as always, graceful in style and sound in thesis. His book is thoroughly interesting and fully representative. We can recommend it to all readers.

"*Memorials and Monuments, Old and New." Hundred subjects chosen from seven centuries. Lawrence Weaver, F.S.A. London: "Country Life," Tavistock Street. 9½ ins. by 6 ins. Price 12s. nett.

LEGAL.

Action against Builders.*Orr v. Hill Bros.*

29. King's Bench Division. Before Mr. Justice Bland.

This was an action by Mrs. M. Orr, of Henlands, Northwood, Middlesex, inst Messrs. Hill Bros., builders, of Church Road, Northwood, to recover damages for alleged breach of a contract October, 1913, made between the parties for the erection of a house, fencings, at Maxwell Road, Northwood, for the sum of £1,520.

The plaintiff's case was that the defendants could erect a house for her according to certain plans and specifications prepared by her architect, Mr. J. Armitage. The house was to be completed by June 1914, the plaintiff alleged that in breach of their contract the defendants had not carried out the entire work in accordance with the specifications, it being alleged that the mortar used was not according to contract. Defendants had failed to make good that defect and plaintiff now claimed damages. Defendants by their defence denied that there had been any breaches of contract. There had been an arbitration and an award and defendants said they had done that which was required of them under the award. Any defect they said was not due to any breach of contract by them—the contract has been carried out by them in a proper and workmanlike manner. No complaint was ever made to them in regard to the mortar till after the house had been completed, although the plaintiff's architect was often upon the site and saw all that was done. The mortar used was in accordance with specification and any damage that was done was due to the plaintiff's architect.

Mr. Rigby Swift, K.C., and Mr. Murphy appeared for the plaintiff and Mr. Moresby for the defendants.

Mr. A. W. S. Cross, architect and arbitrator in the arbitration between the parties, gave evidence for the plaintiff. He said the house was a particularly well-built house.

Cross-examined: Was the question of damage arising from the state of the house raised before you or not?—Yes, I think it was raised and argued.

Re-examined: Nothing was before him as to the amount of the damage plaintiff claimed. He was never asked to give any amount of damage which plaintiff had claimed and had not considered it.

Mr. J. Armitage, architect, of the Strand, W.C., said he prepared the plans and acted as the architect for the plaintiff. The remedy to what was now existing was to pull down the brickwork and rebuild in places. In his opinion the house had depreciated in value about £100. Whilst the house was in course of construction he never made any complaint about the mortar, his first suggestion as to a complaint being after completion.

Cross-examined: He was often on the site whilst the work was in progress—twice a week. If the alleged defect had been covered whilst the work was going on the expense in remedying it would have been small. In his opinion the defective mortar was due to the lime being air-locked. The total cost of the house and land to date was about £2,000, the land having cost about £450. Witness was not aware that the house was in Messrs. Hannell and Sly's list, of Northwood, for sale at £2,700.

Mr. William Woodward, Messrs. Woodward and Sons, Southampton Street, also gave evidence for the plaintiff.

Mr. Moresby, for the defendants, said his first point was that the award covered the claim and was a bar to it, and that therefore he had no case to answer. If the award did not cover the claim, then he said the plaintiff's only right was under Clause 17, and that had not been exercised. If the Court was against him on those points, the last question was, what was the true measure of damages?

Mr. F. Hill, one of the defendants, said whilst the house was in course of erection Mr. Armitage was continually on the job and he had every opportunity of seeing what was being done. From the time the house was begun till it was finished, Mr. Armitage never made any complaint about the mortar. He had no idea why the mortar went wrong, as only the best materials were used. He had seen the house recently and there was no settlement. Damages were mentioned at the arbitration. Witness had been in business twenty years and he had never before had any complaints about his mortar. In this case the sand was right, the water was right, and his men were right, and he had no reason to suspect that this mortar would be otherwise than quite satisfactory.

Cross-examined: All that was necessary here was for the outside walls to be re-pointed.

Mr. W. R. Low, F.R.I.B.A., of Basinghall Street, E.C., said in his view it was the duty of an architect to examine the mortar from time to time, and if he did not do so he was negligent. He had examined the house this month and there was no sign of a settlement. All that was needed was a re-pointing of the outside walls. At the time the defect could have been remedied for about £25. There was no necessity to rebuild the walls now.

Mr. A. W. Anderson, surveyor and architect, 28, High Street, Watford, expressed the opinion that all that was needed to make the house habitable was re-pointing at a cost of about £60.

This was the defendants' case, and Mr. Moresby said his clients were already £120 out of pocket.

Mr. Rigby Swift asked for £500 damages and he would then pay the builders the £120 on the final certificate.

His Lordship gave judgment for the plaintiff for £400, holding that the question which came up in this action did not arise at the arbitration, there being only a discussion as to damages. As £120 was due to the defendants, there would be judgment for the plaintiff for £280, with costs. Stay of execution granted pending appeal.

Claim by an Architect in Respect of Plans Prepared.

At Birmingham Assizes, before Mr. Justice Bailhache, an action to recover £183 10s., professional charges for preparing plans, specifications and bills of quantities, was brought by Mr. William de Lacy Aherne, architect, of Waterloo Street, Birmingham, against Mr. Herbert G. Longford, motor plug manufacturer, of Breiford, Wychall Lane, King's Norton. Plaintiff's case was that in December, 1914, he was approached by defendant with regard to the preparation of plans for a house at Barnt Green. The defendant made certain suggestions as to what he required, and plaintiff estimated the cost at £1,500. Plans were prepared, and these were approved by defendant. Subsequently, however, defendant made further suggestions and additional plans were drawn, the estimated cost of the building then being £2,000. After this defendant wished additions to be made, and plaintiff informed him that these would cost £1,000. Esti-

mates were invited from builders, and the highest received was £3,750, and the lowest £3,110. Defendant considered the cost too high, and plaintiff was asked to prepare new plans for a house to cost £2,000. This he did, but the work of building was not proceeded with. The defence was that the defendant gave plaintiff definite instructions to prepare plans for a house the price of which was not to exceed £1,500, and the plaintiff had not carried out those instructions.—Counsel for plaintiff intimated that he was prepared to abandon the charges in respect of one set of plans, thus reducing amount of the claim to £137 5s.—The jury found for the plaintiff, and judgment was entered accordingly.

Damages for Breach of Brick Contract.

Before Mr. Justice Bailhache, at Birmingham Assizes, damages for breach of contract to supply bricks were claimed by Mr. William James Bromley, builder, of Roxborough, Holyhead Road, Coventry, from Messrs. Websters' Brickworks, Stoney Stanton Road, Coventry, and the manager of the works, Mr. William Elston.—The plaintiff's case was that in October, 1910, Mr. Elston agreed to supply him with bricks at 23s. per 1,000 for the erection of seventy-seven houses in Melbourne Road, Coventry. The bricks were to be delivered as and when required. The plaintiff received substantial delivery, and early in 1911 he had built ten houses. By about April, 1912, thirty-eight houses had been erected, and the plaintiff had paid £900 for the bricks supplied. Subsequently he abandoned building operations for about eighteen months, and when the defendants were later approached to continue the contract they refused to supply the bricks at 23s. per 1,000, but offered to sell them at 31s.—The defence was that there was no written agreement to supply "as and when required."—The jury found that part of the contract was to supply the bricks as and when required. Judgment was entered for the plaintiff for £292 10s., the sum agreed by the parties.

Claim in Connection with a Scaffold Accident.

Before Judge Cluer, at the Shoreditch County Court, on July 27, a bricklayer named Brewer brought an action under the Employers' Liability Act to recover £300 from Messrs. T. Crossley and Son, builders, of Bromley, as damages for injuries alleged to have been sustained through the negligence of the defendants. Plaintiff said he was engaged at 239, Hackney Road at the rate of £2 12s. a week, having been engaged by the foreman on the Monday prior to the accident, which took place on Friday, May 14 last. He had been on the scaffolding about an hour and a half when it collapsed and took him with it, falling a distance of from 20 to 25 ft. The work on which he was engaged consisted in taking down the walls of old houses. The brickwork was pulled down from the top, and just before the accident three courses had been left, two being above the scaffolding. Witness had no information that there was any danger, and he had not been given any warning that the brickwork was getting too low. He had not been able to do any work since the accident. Cross-examined, he said that there was about 6 in. of brickwork above the supports, and upon the scaffolding were eight baskets of bricks, in addition to himself and another man. He did not think it was a rather dangerous thing to go upon, as he was busy with his work. The wall was an

18-in. one. His Honour said it had been shown that the scaffolding was put up by someone else, an independent person, and if so, he failed to see that there was any evidence of negligence on the part of the defendants. Plaintiff must show that the defendants put it up. It was not a question for the jury if there had been no negligence. His Honour then non-suited the plaintiff, and the jury that had been summoned to hear the case was dismissed.

German Alien as a Builder's Workman.

At the Thames Police Court, Frederick Doebling, fifty-three, a German alien, was charged with a breach of the Aliens Order in that he had not notified change of employment.—Inspector Hunt said that prisoner registered on August 8 last, and then said he was a builder, working for himself, and that his place of business was 12, Salverley Street, Mile End. Since then he had not notified any change, yet had been working for about five months for a Mr. Gluckstein, at Stepney Green.—Mr. Cancellor remarked that as Doebling when at work would probably be engaged in repairing the property of English subjects, it was important the police should know where he was.—Sentence: Four months in the second division.

DEAN INGE ON NORWICH CATHEDRAL.

Preaching on the occasion of Founder's Day at Norwich Cathedral, the Dean of St. Paul's, Dr. Inge, based an interesting discourse on the lessons to be learnt from that great cathedral. The spirit of man in the age in which the cathedral was built expressed itself, he said, in stone, in the frozen music of architecture, as in other ages it had expressed itself in the concord of sweet sounds or in noble poetry and prose, or in compelling Nature to give up her secrets. All great human achievements, he believed, were only half-conscious. The chosen spirits among men had their vision of eternal truth, beauty, and goodness, and when they went about their daily work, whether building or writing, or some branch of science, doing their best, but not troubling themselves much about the reasons why one thing felt right and another wrong, the finger of God guided their hand and brain, and they produced works which were more divine, more beautiful, more full of heavenly meaning than they understood themselves. What was the chief impression Norman architecture made upon the mind? It seemed to him to be that of needless expenditure of strength. All the supports of the building were more massive than safety required. There was no economy of material, no desire to put up what would just stand and no more. He did not think they said to themselves, "We will build a church which will still be standing, a witness to our piety, 2,000 years hence." They would not have expected the world to last so long. No, they were building a house for God.

These massive walls, these solid pillars, were not designed to defy Time, but (whether they knew it or not) to symbolise Eternity.

ENQUIRIES ANSWERED.

Liability for Damage by Troops.

H. (Hemel Hempstead) writes: "Through troops billeted in farm buildings and using park and other entrance gates, etc., considerable damage has been done. The War Office allowance is about 55 per cent. of the cost of reinstating, and the reinstating falls very heavy on a tenant with a repairing lease. Is not the owner, under the Defence of the Realm Act, liable to pay his share of the cost?"

—I fear that the tenant has no legal redress, either against his landlord or against the War Office. In common with all of us, he must be thankful that the damage has been done by our own troops and not by those of the enemy! The provisions of the lease itself hold good in all respects.

F. S. I.

Lever Arm of Reinforced Concrete Beam.

J. G. (Liverpool) writes:—"I should be glad if you would explain why in calculating reinforced concrete beams the lever arm is taken as the same for the concrete stress and for the reinforcement stress, i.e.,

$$d - \frac{n}{3} \text{ instead of } \frac{2}{3}n \text{ for the former, and}$$

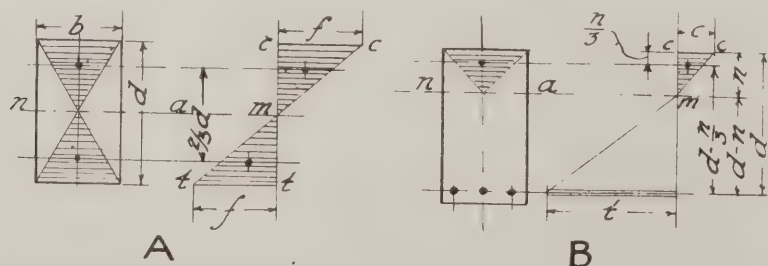
$d - n$ for the latter? In calculating the moments of a system of levers as sketch (not reproduced) the lever arm of f_1 is taken as a , and f_2 is taken as b . Should this not also apply to reinforced concrete beams? It would give results different from those obtained by the usual formulæ."

—The lever arm (a) of a section subjected to bending is that distance at the ends of which the total internal compressive resistances (C) or the total internal tensional resistances (T) may correctly be assumed to be acting to form a moment of resistance (MR) of $C \times a$ or $T \times a$. The total compressive and the total tensional forces so acting must be equal, and there can be only one such lever arm to a section. Its ends must obviously be at the centres of gravity of these forces, although not at the centres of gravity of the areas in which they operate. In a rectangular section of homogeneous material the compressive and tensional forces vary from a maximum at the outer skins to 0 at the neutral axis; and may be depicted by triangles c.c.m. and t.t.m. as in sketch (A). The distance apart of the c.g.

of these triangles is $\frac{2}{3}d$ and the $MR = f$

$$\times \frac{d}{2} \times b \times \frac{1}{2} \times \frac{2}{3}d = \frac{bd^2f}{6}. \text{ In a rectan-}$$

gular section of reinforced concrete (B) the lever arm must extend from the c.g. of the triangle c.c.m. of compressive forces to the c.g. of the tensional forces, as shown,



LEVER ARM OF REINFORCED CONCRETE BEAM.

and $= d - \frac{n}{3}$. The difficulty arises from your conception of the lever arm of the element of the resistance couple as tending only to the neutral axis. In this case the moment of resistance would

the total compression $\times \frac{2}{3}n$ plus the tension $\times d - n$; which is precisely the same thing as total tension or total compression $\times d - \frac{n}{3}$.

PERCY J. WALDRAM

LANCASHIRE DOMESTIC ARCHITECTURE.

What may be called the indigenous domestic architecture of Lancashire came to an end, roughly speaking, at the close of the seventeenth or beginning of the eighteenth century. The reign of Queen Anne was the watershed between the old and the new. After that, for a hundred years or more, in Lancashire as elsewhere we settled down (writes Mr. F. H. Chubb, in a "Building Trades Supplement" to the "Manchester City News") to a building period in which soberness, simplicity, and premeditated design slowly transformed our streets and dotted countryside with Classic mansions.

At the beginning of the nineteenth century Manchester retained much of its timber gabled architecture of a former day, and Market Street, down to the year 1822, when the first widening took place, consisted mainly of houses of seventeenth century date or earlier, with here and there a newer brick front with plain windows and straight cornice. In many cases these brick fronts were only made to older buildings, but as the improvement of the town proceeded the timber-framed houses disappeared and more or less uniform type of town house took their place.

These red-brick houses, many of which remain in a sadly degraded state, were often of some architectural merit, with good doorways and internal fittings, and were generally very well built. An earlier type of warehouse also followed the same pattern and was a sober and dignified building, but after the middle of the century, when residence in the city became the exception rather than the rule, the modern eclectic era in design with its throw-back to the past, began. Every man built according to his taste and without concern of his neighbour. While, therefore, many buildings of conspicuous architectural merit in the later age, Manchester, like most of Lancashire towns, has lost the architectural self-expression that it once had, and has become merely a collection of individual buildings.

Consciously or unconsciously, nearly the present-day styles of domestic architecture are based on, if not copies of, native styles that prevailed during the mediæval period and the sixteenth and seventeenth centuries. In Lancashire these styles naturally followed two main types, according to the geographical and geological formation of the district. In the flat country, between the sea and the Pennine chain, timber architecture prevailed practically down to the seventeenth century, while in the hill districts stone was more commonly used. Of course there was an overlap, and down to about the fifteenth century stone would probably be used for few of the smaller domestic buildings.

NEWS ITEMS.

Municipal Housing at Tamworth.

The Local Government Board have sanctioned a loan of £15,000 by the Tamworth Town Council for the provision of working-class dwellings under the Housing of Working Classes Act, 1890.

Waterproofing Concrete.

The Borough Engineer of Plymouth has stated that on the flats over the dressing-rooms at the Plymouth Hoe Swimming Club he used the powder "Pudlo" and is pleased with the results.

Work on the Roof of Westminster Hall.

Mr. Harcourt states that twenty-five men are at present employed on the roof of Westminster Hall, and a varying number of the contractors' yard. Any postponement of the work would involve the serious risk of the roof falling.

Royal Sanitary Institute.

The provincial sessional meeting of the Royal Sanitary Institute will be held at London on September 3 and 4, when discussions will take place on camp sanitation, the final report of the Royal Commission on Sewage Disposal, and other matters. Sir Henry Tanner, C.B., I.S.O., F.R.S.A., will preside.

"Wilsasbestile" Asbestos Sheets and Tiles.

Readers are requested to state that Mr. M. J. Wilsasbestile was the architect of the Jewish Synagogue, constructed of "Wilsasbestile" asbestos sheets and tiles, which was illustrated in the page advertisement of Messrs. Wilsasbestile and Co., 79, Queen Street, London, in our issue for July 28.

A Glasgow Fountain.

A fountain presented to Glasgow by the late Mr. William Annan, of Port-Dundas, erected at the junction of Cowcaddens and Port-Dundas Road, was unveiled last week. Its design is modelled on the old Cross of Glasgow. Messrs. James Burnet and Boston were the architects.

New Buildings at Edinburgh.

Five new school buildings are to be erected in Anderson Row, Edinburgh, for the Edinburgh Royal Institution for the Education of the Deaf and Dumb. Mr. J. A. Rae, of Edinburgh, is the architect. A new electric power station is to be erected in Westbank, Portobello, for the Corporation of Edinburgh.

Collapse of a Wall at Bradford.

A brick and stone retaining wall at the junction of Canal Road and North Brook Street suddenly collapsed, causing the death of two persons and injuries to four others. Behind the wall there was an accumulation of sand-like material, and it was conjectured that the effect of the heavy rain on this mass caused the wall to give way.

Paintures Smuggled out of Belgium.

The pictures shown in the Belgian Art and Crafts Exhibition now open at the Crystal Palace have had an adventurous history. They had to be smuggled out of Belgium. To effect this they were rolled from their frames, rolled up, used for wrapping for packages and conveyed in a covered cart, through ruins, barricades, battlefields from Brussels to Bergen-op-Zoom. The most hazardous portion of the journey was the passage through the

firing lines at Vilvorde, Malines, and Wavre Ste Catherine, the passing of the advance guard at Lierre, and the crossing by night of the plains of the Campine. It was only by a combination of courage, ingenuity, and good fortune that they arrived safe in this country. Many of them are of great value.

New Bathing Pool at Scarborough.

A new bathing pool has been formed in the South Bay, Scarborough, oval in shape. The depth of the water varies from 3 ft. to 7 ft. There is a broad promenade on the landward side, with slipways from the beach. The pool is so arranged that the tide flows into it at high tide. It has cost about £5,000, and with the bathing establishment, café, and bungalows, about £13,000 will be spent in all.

The Woolwich Arsenal Housing Scheme.

About 3,000 men employed on the erection of Government houses at Well Hall for workmen at Woolwich Arsenal struck work on Wednesday morning last, and for some hours a critical situation existed, but happily during the day a settlement was reached. The trouble occurred over the methods adopted by the general foreman, and the dismissal of a section foreman. Messrs. Leslie and Messrs. Mowlem are the contractors who have the work in hand.

A Recreation Hut for Wounded Soldiers.

A recreation hut for the use of sick and wounded soldiers has been erected at the Bagthorpe Military Hospital, Nottingham. It measures 70 ft. by 30 ft., with a verandah on one side, 10 ft. wide, enclosed by glass screens. The hut is of wood on a brick foundation, the roof being laid with "Ruberoid." A billiard table has been installed, and at one end of the room accommodation is provided for the arrangement of special tables so as to form a stage. Messrs. Heazell and Sons, of Nottingham, were the architects (honorary).

Dunfermline Town-Planning Scheme.

The Dunfermline Town Council held a special meeting last week for the purpose of finally approving their large town-planning scheme, which embraces the whole of the land lying between the city and the dockyard at Rosyth. The preparation of the scheme has cost £2,000. The total immediate expenditure on the scheme will be £124,000, including £100,000 for the main outfall sewer. The other estimated expenditure required within the next fifty years will be £206,500, making a total of £330,500.

"The Glory that was Reims."

In view of the very considerable interest which is being shown in the exhibition at the Leicester Gallery, Leicester Square, of the 200 large-scale photographs of the sculptures and details of Reims Cathedral, taken by the sculptor-restorer M. Léon Doucet before and after the bombardment, it has been decided to continue it throughout August. The exhibition is being held in aid of the French National Relief Fund, and arrangements have been made by which similar collections will be shown within the next few months in the Birmingham, Manchester, Leeds, Bradford, and other municipal galleries.

A Souvenir of the Scarborough Bombardment.

Interesting souvenirs of the Scarborough bombardment have recently been added to the collections in the Museum at Hull. These consist of large and small medals struck in gold, silver, bronze, and

aluminium. On the obverse of the large medal is a view of Scarborough being bombarded by three battleships, as well as views of the town looking north and south. Towards the centre are the Scarborough arms, and the words, "Scarborough still Undismayed." On the reverse are the words, "Bombardment of Scarborough and Non-Combatants by the German Fleet, December 16, 1914."

Hurstmonceux Castle Restoration.

Hurstmonceux Castle, Sussex, built in the reign of Henry VI., one of the most famous ruins in the South of England, is now in process of restoration and rebuilding. In 1911 it passed by purchase into the hands of Lieut.-Colonel Claude Lowther, M.P. Colonel Lowther is in command of the 11th (Service) Battalion Royal Sussex Regiment, but in spite of the demands of his military duties is still proceeding with the work of restoration. He is adding a chapel and a wing to the banqueting hall—66 ft. by 33 ft. The ceiling of the hall is to be a replica of the roof of Crosby Hall. Colonel Lowther recently bought the whole of the old wall at Robertson's Hill, Hastings, which is believed at one time to have formed part of Hastings Castle. These remains are to be used in the building of the banqueting hall, and will shortly be removed from Hastings for that purpose.

The British Portland Cement Manufacturers, Ltd.

The fourth annual report of the directors, submitted to the general meeting of the company held in London on July 29, states that the financial year, embracing nine months of the War, opened with a normal demand for Portland cement and a reduction in manufacturing costs resulting from the improvements effected at the various works. With the outbreak of War, the business was at once adversely affected in every department, a serious shortage developed in the supply of labour and materials, which so hampered the manufacture of cement that the production was not equal to the demand, notwithstanding a considerable decrease in orders received from all markets, while the greatly enhanced cost of manufacture, particularly in respect of fuel, was but partly met by the advance realised in the selling price. Nevertheless, a profit of £146,375 had been made, and the directors were able to recommend the payment of the full dividend on the Preference shares for the half-year and a dividend of 5 per cent. for the year on the Ordinary shares, leaving a balance of £70,767 to be carried forward.

The First Shrapnel.

The Carron Company, of Carron, Stirlingshire, who now, as in the days of Nelson, are engaged in manufacturing war material, have in their possession some documents which are interesting as bearing on the early history and development of shrapnel shell. One of the documents is a letter addressed on October 10, 1804, to Lieutenant-General Ross, of the Honourable Board of Ordnance, London, giving "particulars respecting the business done under Major Shrapnel's orders," the items including "Spherical Case Shot certified by Major Shrapnel in September and October, 1803, £4,587 11s. 2d.; do., shipped on board the Melville Castle for Dublin in November, £596 9s. 8d., and do., shipped on board the Princess Elizabeth for Dublin in November, £1,455 14s. 8d.," together with "expenses incurred by Major Shrapnel's experiments at Carron in 1803, £191 11s. 10d." The invoice book

of the company under date December 31, 1803, also gives a list of "sundry articles furnished Major Shrapnel for his various trials of the Spherical Case Shot," including over 1,300 spherical case shot ranging from 3 pdrs. to 68 pdrs., at from 6d. to 5s. each, and "Thomas Smith, Tenant, for damage done to his farm, £5 5s." It will also be remembered that the carronade, a short, light gun, resembling a mortar, which was adopted by the British Navy in 1779, took its name from the fact that it was first cast at the Carron Works.

New "Homeland" Handbooks.

The latest of the Homeland Association's publications are a book on "Dartmouth, Totnes, and the River Dart" (No. 86), with street plans of Dartmouth and Totnes and Ordnance Survey map of the district—price 6d.; and a small guide-book to Barnstaple (with plan of the town), price 3d. The address of the Association is 37 and 38, Maiden Lane, Covent Garden, W.C.

Manchester School of Technology.

The prospectus for the session 1915-16 has just been issued. The department of Architecture and Building Construction is under the direction of Professor A. C. Dickie, M.A., A.R.I.B.A., with Mr. W. Leicester, M.S.A., as Lecturer in Building Construction and Mr. J. Lindsay Grant as Demonstrator in Architectural Drawing and Design. The next session will begin on October 5.

New Building for the General Medical Council.

A new building is being completed for the General Medical Council in Hallam Street (which lies between Portland Place and Great Portland Street), from designs by Mr. Eustace Frere, A.R.I.B.A.; the contractors being Messrs. Chinchin and Co. The front is of Portland stone, with a great bow extending up to cornice level. The council chamber is on the first floor, occupying the whole front, and extending up two floors; the room will be panelled in oak. The new building will probably be occupied before the end of this year, but the next two sessions are likely to take place in the old Oxford Street premises.

For Converting British Weights and Measures into Metric Equivalents.

In view of the increased trade which British firms are likely to secure in foreign countries where the metric system is in force, the ingenious "computer" devised by Mr. F. Seaton-Snowdon (Lieut. N.R.) should prove extremely useful. The instrument resembles a date indicator, having two spools on which is mounted a band printed with the several equivalents. By moving the band into the required position the corresponding values of British, French, Russian, Swedish, Norwegian and Danish, Japanese, American and Canadian coinage, weights and measures are automatically indicated. The "computer" may be obtained from the inventor, Mr. F. Seaton-Snowdon, 22, Henrietta Street, Covent Garden, London, W.C.; price £1 11s. 6d.

Housing in Berlin.

The July issue of "The Town Planning Review" includes a very interesting article on "Dwellings in Berlin," by Mr. T. C. Horsfall. After pointing out that the high price of land and the costliness of the building needed for tall houses have made rents so high that the greater part of the population of Berlin of all classes except the richest suffers from lack of house-room, Mr. Horsfall says: "The Emperor has long known of the physical, mental, and moral ruin brought on the mass of the inhabitants of Berlin by the excessive dearth of land and dwellings. He caused a

book to be written containing descriptions and representations of English houses, and has thus shown that he knows of the great superiority in wholesomeness, cheapness, and convenience of the small house to the Berlin type of big house. He knows that the Prussian Parliament and the Berlin Town Council, both elected by the three-class system, are under the control of house-owners and speculators in land, and that there is no chance that both, or either, of those two bodies will ever promote, or even voluntarily permit, the building of a large number of cheap wholesome dwellings. Moreover, the Emperor knows that it is in the power of the State to open out an almost limitless amount of cheap land without the help, and, if necessary, in spite of the opposition, of the Berlin Town Council. . . . Further, the Emperor has long known that, if he would take in hand the immensely important task of making possible the wholesome housing of his Berlin subjects, he would have the strong approval of all the best of his subjects. . . . But the Emperor, apparently because he believes that the support of the classes to which the three-class system gives predominance both in the Prussian Parliament and in Prussian Town Councils is necessary for the safety of his dynasty and fears to offend them, has made no effort to effect reform. . . ."

COMPETITIONS.

Hospital, Galemire, Whitehaven.

The competitive designs for the above were submitted to Mr. Stiven, borough surveyor, Whitehaven, whose report and recommendations the committee have adopted. The selected design is by Mr. H. Irving Graham, of Harrington, Cumberland, the estimated cost being £3,500.

COMPETITIONS OPEN.

September 14.—BUSINESS PREMISES PLYMOUTH.—The Plymouth Mutual Co-operative and Industrial Society invite designs for business premises to be erected in Frankfort Street, Plymouth, on a site containing about 24,000 sq. ft. Premiums of £75, £50, and £25 for designs placed second, third, and fourth. A plan of the site, and particulars, prepared by Mr. Paul Waterhouse, M.A., F.R.I.B.A., the assessor, can be obtained from the General Secretary, Plymouth Mutual Co-operative and Industrial Society, 15 to 18, Frankfort Street, Plymouth. Deposit 5s. Summary of conditions on page xiv. of our issue July 7.

OBITUARY.

Mr. James Ramsden.

Mr. James Ramsden, builder, of Bury died on July 29. He was president of the North-western Master Builders' Federation in 1914.

Mr. Ralph Dain, F.P.

The death of Mr. Ralph Dain, J.P., of Burslem, is announced. Mr. Dain, who was eighty-six, practised as an architect for a long period. He was professionally associated with the erection of the gaols near Leeds and at Manchester; the Free Trade Hall, Manchester; works on the Knowsley Estate of Lord Derby, and on the Keele Estate of Mr. Ralph Sneyd; the building of the County Asylum at Stafford; the Hanley Baths; and other works of an important character. He retired from practice about twenty years ago, but the firm of R. Dain and Sons is still carried on.

MEMORIALS.

A committee has been formed in London to consider the question of erecting a battlefield of the Marne a monument to those who fell in the fight that drove the German Army headlong backwards to Paris.

A memorial to the stewards, fishermen, and sailors of the "Titanic" who lost their lives in the disaster of April 15, 1912, has been erected at Southampton by the widows, mothers, and friends of the crew. It takes the form of a fountain at the corner of Cemetery Road. The fountain is 16 ft. 3 in. high, comprising a central column supported on columns, with a carved urn within. The work was designed and executed by Messrs. Garret and Hallowell of Southampton.

In the Church of St. Peter, Colebrook, Sussex, a brass plaque has been erected in memory of Captain Boxall, 2nd Hampshire Regiment, who was killed during the historic landing of the Mediterranean Expeditionary Force in the Dardanelles. The plaque was wrought by Mr. A. Willetts, of Leeds, to the order of Mr. Joseph Kaye and Sons, Ltd., of Holborn.

A war memorial to the Lancashire gift of Councillor W. J. Lucas) is being erected at Prescott. It will take the form of a granite pedestal, 14 ft. high, supporting the figure of a soldier in uniform. The selected design is stated to be by Samuel Welsby, sculptor, of Mossley.

At the Parish Church, Wiveliscombe, Somerset, a new altar, reredos, and window have been erected in memory of the late Lieut. R. E. Hancock, D.S.O., who was killed in action at Festubert on October 29 last, aged twenty-six. The reredos is of carved oak and is designed to contain a large central panel with a painting of the Crucifixion, by Miss M. Esplin. Mr. F. Bligh Bond, F.R.I.B.A., of Glastonbury, is the architect for the work, and Messrs. R. L. Boullin and Sons, of Cheltenham, are the contractors.

THE STATE OF THE BUILDING TRADE.

Returns received by the Labour Department of the Board of Trade from eight of the principal urban districts in the United Kingdom (exclusive of the County of London) giving the estimated cost of buildings for which plans were passed during the second quarter of 1915 show there was a decrease of £2,289,119 (51.0 per cent.) compared with the corresponding period of 1914. The population of the districts included in the Return was about twelve millions.

All descriptions of buildings showed a decrease, which was most marked in the case of shops and other business premises (67.6 per cent.), churches, schools, public buildings (66.8 per cent.), and dwelling-houses (59.1 per cent.). The reduction in the case of factories and workshops was insignificant.

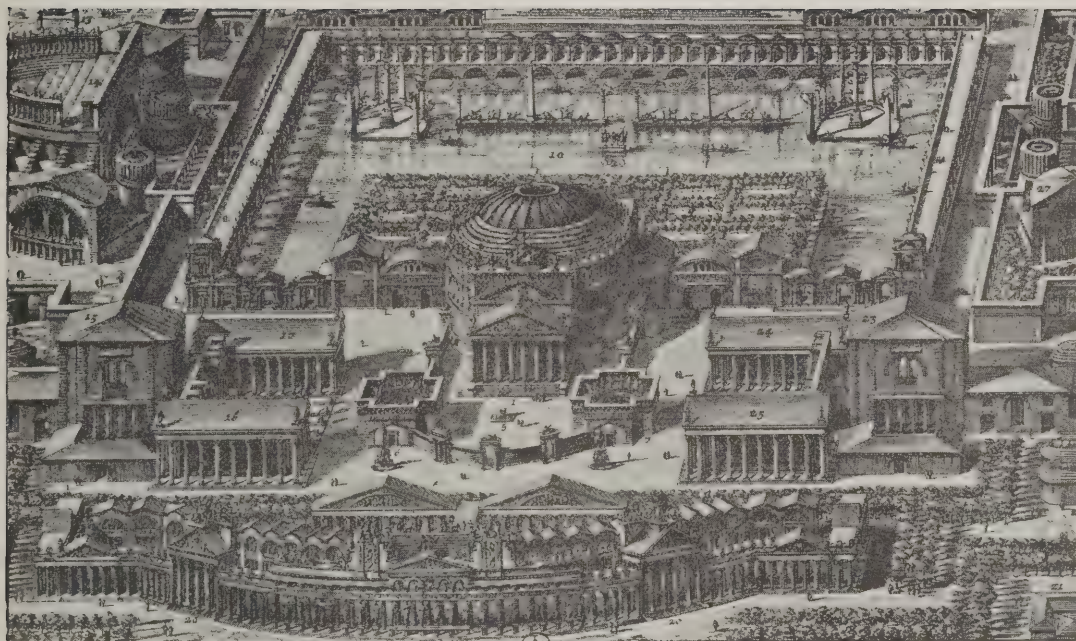
The only district showing an increase during the quarter was the North Devon County, where it amounted to 22.3 per cent. Of the decreases, the most notable were: Scotland (65.4 per cent.), "Other Districts in England" (60.4 per cent.), Wales and Monmouthshire (58.5), and London (57.4 per cent.), and Ireland (56.4 per cent.).

THE ARCHITECTS' & BUILDERS' JOURNAL.

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Volume XLII. No. 1076.

No. 148.



THE PANTHEON, ROME, AND ADJACENT BUILDINGS.

(From Piranesi.)

THE ARCHITECTS' & BUILDERS' JOURNAL.

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TOTHILL STREET, WESTMINSTER.

VOLUME 42. No. 1076.

EDITORIAL.

WHAT influence has War on the course of the arts? That is a question which has often been raised. The common answer is that War stimulates the arts, an assumption which apparently takes its start from a passage in one of Mr. George Moore's essays on "Modern Painting," where he says: "It has been said that Art is decay, the pearl in the oyster; but such belief seems at variance with any period of history. The Greek sculptors came after Salamis and Marathon; the Italian Renaissance came when Italy was distracted with revolution and was divided into opposing states.

Art came upon Holland after heroic wars in which the Dutchmen vehemently asserted their nationhood, defending their country against the Spaniard, even to the point of letting in the sea upon the invaders. Art came upon England when England was most adventurous, after the victories of Marlborough. Art came upon France after the great revolution, after the victories of Marengo and Austerlitz, after the burning of Moscow." This theory that War stimulates the arts has been contested, and we notice in the August issue of the "Connoisseur" a very interesting article by the editor in which he sets out to show that Mr. George Moore's assumption is wrong, and that periods of stagnation and decline are sure to occur after great national conflicts. His survey is so incisive that we give the following extended extract from it: "Innumerable wars and great national movements have occurred without being followed by Art, and Art has originated in periods of profound stagnation. Another source for its origin must be looked for, and this is easily found. All the periods of Art which Mr. Moore has mentioned have followed on wars and great movements of nationhood. But they have also come during periods of great national prosperity; and, as prosperity appears to be the invariable forerunner of Art, we must look on Wealth rather than on War as the source of Art. . . . The Greek sculptors came when the Athenians ruled the sea and enjoyed a practical monopoly of maritime trade; Italian art came when the commerce of the East flowed through the cities of the Peninsula; the early art of Flanders and Germany when their cities were most rich and powerful. On the instance of Holland Mr. Moore lays special emphasis, yet this is the instance which most completely disproves his theory. It is true that Rembrandt and the Dutch school came into being after the heroic resistance of the country to Spain, but it was preceded and rivalled by the school of Flanders—with Rubens and Van Dyck; and Flanders had meekly accepted the Spanish yoke. But Flanders had regained its lost wealth when Art came upon it a second time; and the great era of Dutch painting took place when Holland was mistress of the seas and Amsterdam the greatest mart in Europe. The dominion and the trade of the seas passed to England, and in their train followed Art. Art, indeed, is like a house of cards, built

up slowly and laboriously during the prosperous times of peace, and blown down almost instantly by the first breath of war and adversity. . . . The time when Art came to England was during the period when national and political life seemed most utterly stagnant—a stagnation induced by contentment and advanced material prosperity. . . . The first master-painter was Hogarth. He would probably have remained a jeweller's engraver had not thriving times ensured demand for his prints, and afterwards for his pictures. His art was wholly a product of the prosperity of the middle classes. They bought his prints—biting satire on high life, which the aristocracy thought vulgar—and commissioned most of his portraits and conversation pieces. . . . Art was showing itself in other directions than in painting. Chambers, lately returned from his Eastern tour, was proving himself the greatest English architect since Wren; MacArdell and Houssier had begun the golden period of English mezzotint; Chippendale was achieving fame as a furniture-maker, and the publication of his 'Gentleman and Cabinet-maker's Director' in 1754 showed that there was a large public ready to buy costly household furniture. Many of the most famous pottery and porcelain works were being founded. Bow and Chelsea date from before 1750. Aaron Wood set up for himself in 1749; Wheildon and Wedgwood entered into partnership in 1754; Worcester commenced in 1751, Liverpool in 1752, and Derby and Lowestoft in 1756. In the last-named year the Seven Years' War commenced. Its spoils were so colossal that it helped rather than hindered the trade of the country. The peace which followed saw England at the height of her material prosperity and political greatness, and at her artistic zenith. . . . Banks, Nollekens, and Bacon had appeared in sculpture; the brothers Adam in architecture and furniture-design, and in the latter manner Henry Hepplewhite, Sheraton, and a number of lesser men."

* * * *

"Sculpture, architecture, ceramic art, and cabinet-making—all the graphic and applied arts, indeed, withered under the blast of the War (against Napoleon). Sculpture suffered the least, for it attained no flourishing growth, and so its decline was the least marked. Of the pseudo-classical stucco architecture which appeared after the War, little good can be said except that it was cheap; and cheapness was also characteristic of early nineteenth-century furniture and pottery. . . . A hundred years have elapsed since the French war finished, and even now we have scarcely made up the leeway lost to English art through its occurrence. . . . Taking one thing with another, however, the artistic position occupied by England at the beginning of the present war is analogous to that held by her at the end of the eighteenth century. Her art commands profound

pect abroad as well as at home, and in several departments of it—engraving, domestic architecture, and the production of furniture and ceramic ware—leads the world. . . . The artist who creates, and the dealers and collectors who accumulate treasures of the past, originate the artistic taste which governs the design of textiles, pottery and porcelain, metal-work, and the thousand and one wares which are not merely mechanical productions. Weakened and vitiated this source and the future of half the industry in the country is jeopardised. . . . Now, unless we are careful, there is every danger of another decline in English taste. The people who have devoted their lives to the pursuit and study of Art must receive adequate support, or else, as in the case of their predecessors, their efforts will be brought to a standstill, and, when the War is over, a new generation will arise ignorant of artistic tradition and deficient in artistic knowledge. . . ."

On the face of it, the foregoing argument appears to be incontrovertible. At the same time, when a broad survey of the subject is made, one cannot escape the conviction that it is the affluence gained through success in War that has provided the means of Peace, and so made possible the existence of those patrons who provide the foundation for the glorious period of Art. A poor country can never enjoy periods of great Art. On the assumption that the present war is going to be followed by a vigorous retrenchment in expenditure on luxuries, it might be said that War was not a favourable opportunity for Art, but the hypothesis may well be challenged. Our own belief is, that after the present war there will be a period of great expenditure, which will give rise to a boom in trade, and thereby provide an opportunity for the production of great works of Art—which term we must not confine to painting only, but consider to embrace architecture and the allied arts and crafts.

There is one passage in the criticism set forth in the preceding page which we would especially like to take up. The writer says that of the "pseudo-classical stucco architecture" which appeared after the Napoleonic Wars little good can be said "except that it was cheap." This, in our opinion, is but a repetition of the mistaken view which was first promulgated by the Gothic Revivalists of the last century. To them everything which smacked of classical architecture was viewed with disapproval, and because at the time there was a great cry and cry after purist principles in building and a jealous advocacy of the craftsman's share in the work, stucco became a by-word, and every stuccoed building was regarded as a thing more or less to be ignored. That is not the general opinion to-day among those who are in a position to judge. As a matter of fact, the merit of early nineteenth-century architecture is being widely acknowledged. We have only to think of such schemes as Regent Street to recognise that scholarly "stucco architecture" can be finer in effect than grandiose civic conceptions making a lavish use of brick and stone, and the illustrations in the series of small houses of the Late Georgian Period which have appeared among our plates during the past year have served to show how very convincingly what admirable domestic work was being done a hundred years ago.

The reply given by Mr. Tennant (Under-Secretary for War) to a question concerning the use of brick by the War Office have made of architects' services gives rise to rather mixed feelings. Someone has raised a point about plans for huts having been prepared by the president of the Institute of Architects in the War," Mr. Tennant says that it was

not till May last that the R.I.B.A. offered its services in a corporate capacity to assist in any work carried out by the War Department, and at this time the greater part of the work of erecting wooden huts for the troops had been finished. "Hence comparatively little advantage could be gained by the War Department availing itself of the offer." It is obvious from this that if the services of the Institute were to be taken advantage of, they should have been offered at a much earlier date. We are glad to know, however, that the War Department has been able to give employment to a number of architects and surveyors whose names were submitted by the Institute at the beginning of the War, or who later offered themselves for service. The architectural profession has, indeed, responded splendidly to the national call for men. There are, we believe, nearly 1,500 architects and architects' assistants serving with the Forces, and among the older men who have to remain at home a great number are doing voluntary service of some kind or other.

The newspapers, we notice, have lighted upon the scheme for building some of the new houses on the Duchy of Cornwall Estate at Kennington without a "parlour." Our own readers will remember this is a subject which in past issues we have been at pains to consider, the competition for the planning of a small suburban house having been expressly concerned with the abolition of a room which, while absorbing valuable space in an inevitably restricted site, is practically never used. It is obvious, however, that popular reforms can never be effected through the agency of professional and technical journals. It is necessary to be able to reach the ear of the public, and the newspapers alone are in a position to do this. The notes about the Kennington houses have helped to show the public what an unnecessary room the "parlour" is. We know, of course, that whatever may be the good reasons put forward for its elimination, people will still cling to the inclusion of a "parlour," though by doing so they may have to suffer the inconvenience of a much smaller room than would otherwise be available, but by steady application it is hoped that the foolish notion will eventually be killed, and as a step towards that end we were glad to see the newspaper comment on the Kennington houses.

A discussion has arisen at Cambridge on the proposal to erect a new brick building next the Fitzwilliam Museum. We have not any detailed particulars of the scheme, but we should certainly advocate that stone be used. The Fitzwilliam Museum presents a very fine front to Trumpington Street. It was designed by Basevi, though he never lived to see his work completed, having been killed in 1845 by falling from an opening in the floor of the west tower of Ely Cathedral. The completion of the building was undertaken by Cockerell, and the result is a façade which calls forth the greatest admiration alike for its general massing and for its detail and ornament. The name of E. M. Barry is also associated with the building, he having designed the enrichments to the entrance hall and staircase. The Fitzwilliam Museum is certainly one of the best buildings in Cambridge, and on that account the most careful consideration should be given to the design of any new building that is to be erected adjacent to it. The Cambridge colleges offer abundant examples of good building in brick; and we have nothing to say against the use of brick except that when placed cheek by jowl with such a great stone building as the Fitzwilliam Museum the contrast would be unhappy for both.

HERE AND THERE.

A STORMY petrel is the "Anti-Scrape" Society (let it be noted in passing that the word "petrel" is supposed to be derived from St. Peter's walking on the sea). The Society's task, though self-imposed, is not a happy one. Everyone's hand is against this Society—the Society for the Protection of Ancient Buildings—at least the hand of everyone who has an old building under his charge or in his possession. All is well so long as you do what the Society tells you. When your old half-timber house is falling about your ears, you must consult the Society first, before doing anything drastic. When the buttresses of your church tower have been chafed away by the weather until the structure is positively dangerous, write to the Society for advice, and do as they tell you. The Society will send down an architect of its own choosing, and he will work all manner of wonders with washes of baryta water, and bits of tile and cement. And then your house, your church tower, will last for ever and ever. Those are the kind of satirical remarks which the Society has to put up with. Despite them, however, it pursues its way, has kept to its task since 1877, when it was founded, and many a good piece of old work it has been the means of preserving. The record for the past year is a striking illustration of its activities, more than two hundred buildings in need of repair or in danger of demolition having come before its notice. The Society observes, with regret, that in recent years "more of those buildings of minor importance which lend to a town or village its peculiar tone and character have been destroyed than in any previous period," and the "Notes on Cases" provide ample evidence of the ruthlessness which is afoot. My sympathies are largely with the Society, which is doing all it can to preserve the heritage of the past. At the same time I think there is a good deal in what has been said by M. Horta, whilom Director of the Royal Academy of Fine Arts at Brussels, "that buildings cannot live for ever, in spite of skilful repair, and that, having lived their time, they should be allowed to die as, like Man himself, all human work must disappear." And what I feel, too, about the "Anti-Scrape" Society is, that its interests are too restricted. A great fuss is made over some old barn in a Wiltshire village, or a sixteenth-century cottage, but never a word is said about the demolition of a beautiful building like the Phoenix Assurance office at Charing Cross. Architecture of a hundred years ago has apparently no place in the Society's category of things worth preserving.

A new society must be founded—the Society for the Suppression of Architectural Tit-Bits. The membership would be limited strictly to those whose architectural outlook was approved by the committee, and there would be none but active members. The idea springs from the fact that nine out of every ten modern buildings in England are spoiled by the architectural tit-bits and trimmings which are such a lure to the designer. A friend and I were walking down Whitehall the other day, and we saw at once what admirable work could be done there by members of the Society, armed with ladders and axes. Off would go those helmet turrets at the corners of the War Office, a clean sweep would be made of the cupola on Sir Aston Webb's United Service Institution, and right merrily would the members apply themselves to the demolition of those corner towers of the Local Government Board building which formed no part of Brydon's design. The War Office could be greatly improved by the attentions of the Society in eliminating its architectural tit-bits. "Woodman, spare that tree," wrote George P. Morris, but the members of the new

Society would cry: "Axeman, spare not the egregious window pediments, the blocked columns, and the lumpy cartouches." The general lines of the War Office are quite good. There is a fine colonnade rising through two storeys, carrying a cornice and a sturdy blocking course, and though the angle treatment marred by the adoption of an inter-columniation rather than that of the central colonnade, thus breaking rhythm, the facade could be made vastly more effective in the manner suggested, provided also that somewhat more dignified were substituted for the present miserable main entrance. Kent's Horse Guards, across the way, should be the model for Whitehall, and elsewhere, too, in so far as it is a building that relies on good architectural composition and proportion for its effect. There is a most restful abundance of plain wall surface in the Horse Guards, and an absence of sculpture and carving which few modern architects would have the courage to countenance. Yet the result is immeasurably superior to the customary practice, which leaves scarcely a foot of the elevation undisturbed.

The R.I.B.A. "pass list" published in this Journal last week gives occasion for a brief note. There are, I believe, already three or four lady members of the Institute. Others are coming along. I note the names of two among the new Probationers: Miss Fisher, of South Ascot, and Miss Hughes, of Bournemouth, and the name of Miss Louy (King's College) occurs among those exempted from sitting for the Intermediate and registered as Students. Other names catch my eye also. Among the Indian candidates are Birendra Nath Dey, Bhanwar Lal Dhama, and Pherooshah Fardoonji Balsara; there is a representative of Japan in the person of Kei Takekoshi; and there are two men from far France. Thus the Institute becomes both domesticated and cosmopolitan.

There is a further thing to be noted from this "pass list." The chief failures are in construction and design. In the "Intermediate" only one out of two relegated candidates failed in "The Principal Styles" and General History of Architecture" and only two in "Historical Architecture: Greek and Roman," but there were eight failures in construction and five in design. Similar figures are given in the "Final Examination," where there were 17 failures in foundations, walls, roofs, etc., and 19 in iron and steel; 19 also in hygiene; as compared with 13 in "The Ordinary Practice of Architecture" and three in "The Thesis." This year, of course, owing to the War, the total entries were far fewer than usual, 80 candidates for the "Preliminary," as against 150 last year; 21 for the "Intermediate," as against 81; and 52 for the "Final," as against 91; but the results are much the same as before. In the "Intermediate" last year, out of 34 candidates relegated, five failed in "The Principal Styles," one in Greek and Roman History, 14 in theoretical construction, 18 in simple applied construction, and 22 in design; while of the 46 relegated candidates in the "Final," two failed in the thesis, 20 in architectural practice, 27 in foundations, walls, roofs, etc., 35 in iron and steel, and 32 in design: from all of which it can clearly be seen that architectural training as commonly carried out in this country produces students who are full of book knowledge of the historical side of architecture, but do not know half enough about construction and the practical side of building, and are, moreover, grievously deficient in ability to design. What all is said, it is better to know what sort of foundation to use on an awkward site than to be able to rattle off the different types of Greek temples or to waffle learnedly of the historical development of the Egyptian lotus capital; and, above all, it is of paramount importance to be able to design a decent building.

UBIQUE

*Edward Whiffers : Architect.
Scale : Eight Feet to the Inch.*

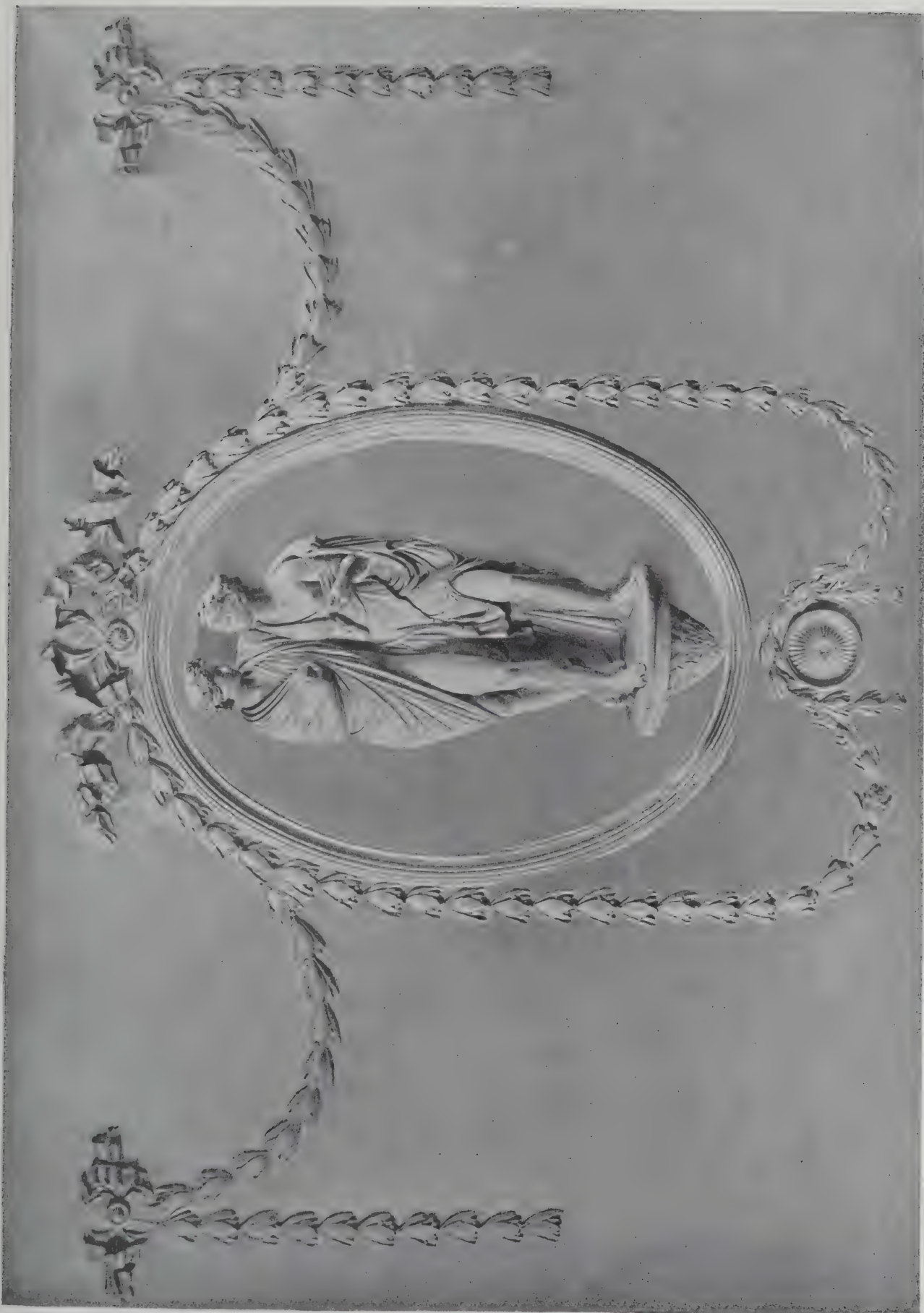


*The Front Elevation, Facing North
and the Portico.*



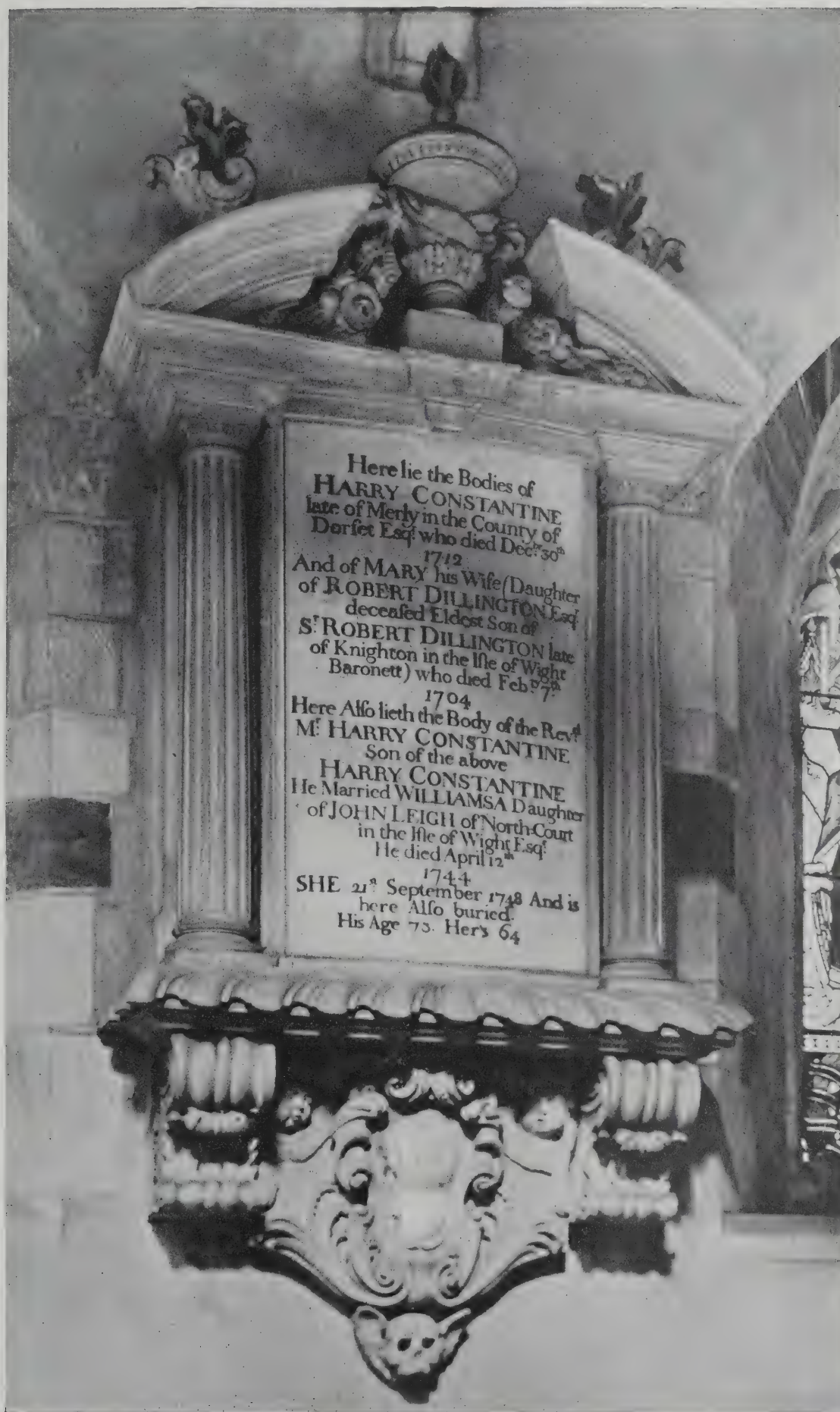
*The Side Elevation, Facing South
and the Portico.*

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DETAILS OF CRAFTSMANSHIP. XXXI.—PLASTER MEDALLION FROM NO. 29, GREAT GEORGE STREET, WESTMINSTER.

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UNIVERSITY OF ILLINOIS



Here lie the Bodies of
HARRY CONSTANTINE
late of Merly in the County of
Dorset Esq: who died Dec: 30th

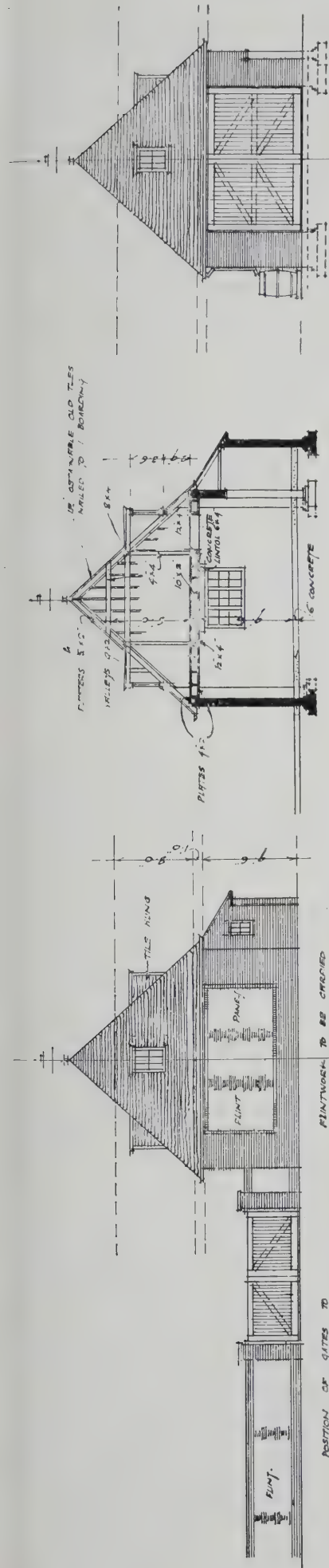
1712
And of **MARY** his Wife (Daughter
of **ROBERT DILLINGTON** Esq:
deceased Eldest Son of
S^r ROBERT DILLINGTON late
of Knighton in the Isle of Wight
Baronett) who died Feb: 7th

1704
Here Also lieth the Body of the Rev^d
M^r HARRY CONSTANTINE
Son of the above

HARRY CONSTANTINE
He Married **WILLIAMS** Daughter
of **JOHN LEIGH** of North-Court
in the Isle of Wight Esq:
He died April 12th

1744
SHE 21st September 1748 And is
here Also buried.
His Age 73. Hers 64

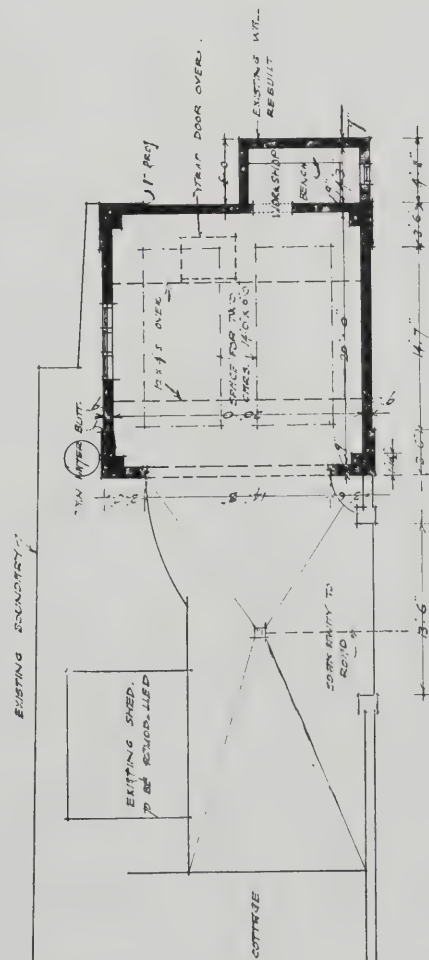
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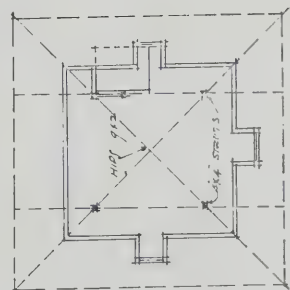
ELEVATION TO OLD LONDON ROAD:

ELEVATION TO YARD

SECTION.



PLAN:



ATTIC:
PLAN:



SCALE OF FEET



MODERN DOMESTIC ARCHITECTURE (SERIES II.). XIX.—GARAGE AT ST. ALBANS.

RICHARDSON AND GILL, FF.R.I.B.A., ARCHITECTS.

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SMALL HOUSES OF THE LATE GEORGIAN PERIOD. XLVIII.—ATHERTON HOUSE, HAM, SURREY.



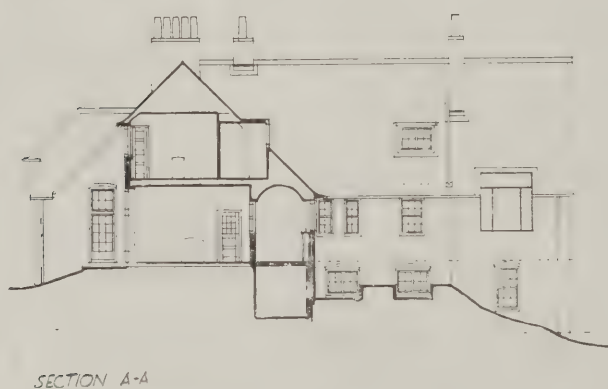
Photo: Thomas Lewis, Ltd.

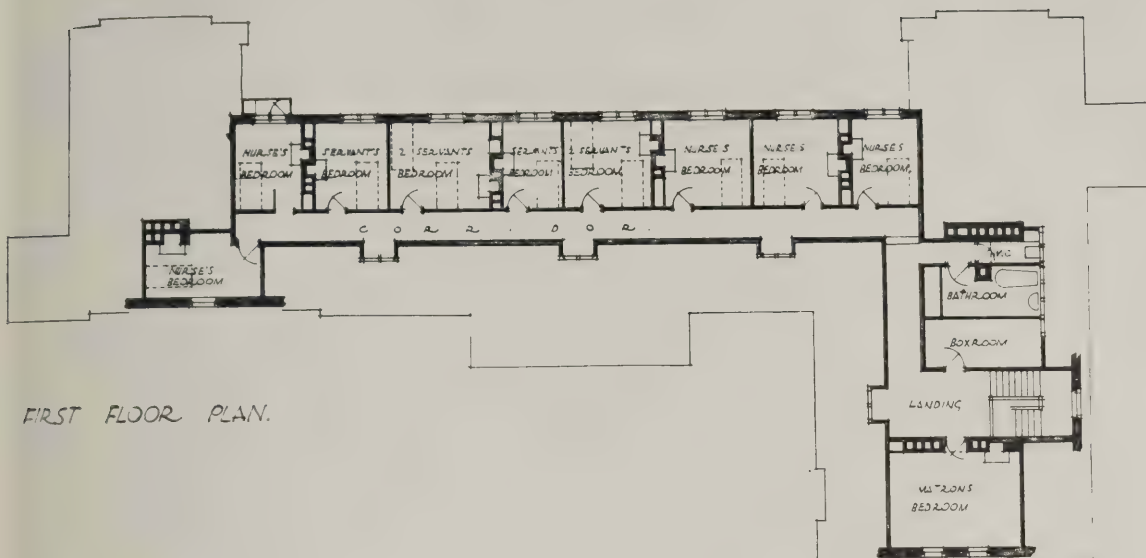
CURRENT ARCHITECTURE (SERIES II.). XLII.—NEW REREDOS AND ALTAR, MOSELEY PARISH CHURCH, BIRMINGHAM.

J. A. CHATWIN AND SON, ARCHITECTS.

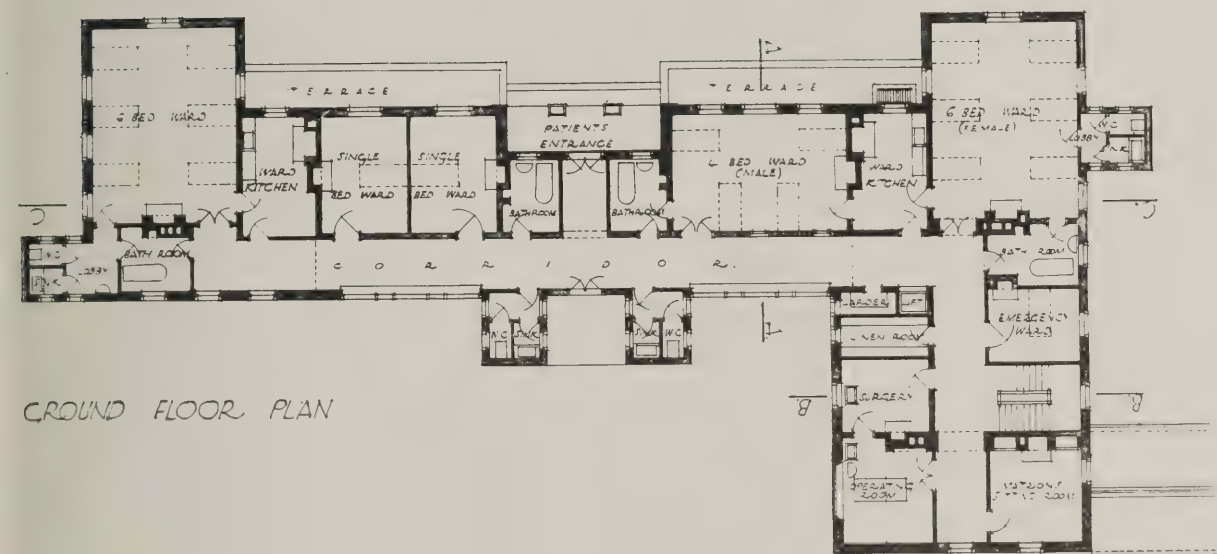
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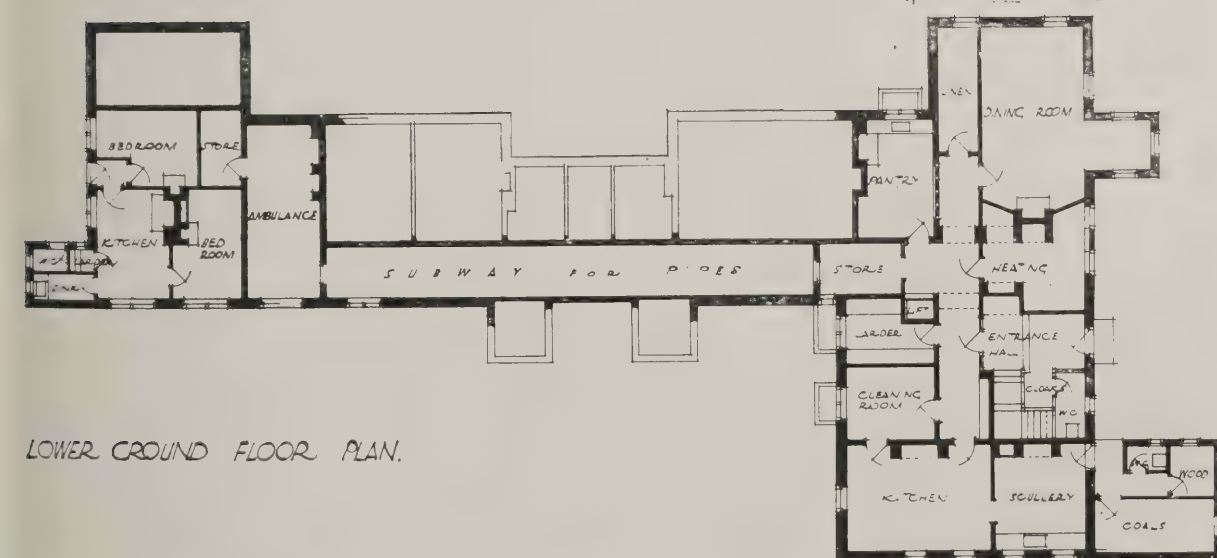




FIRST FLOOR PLAN.



GROUND FLOOR PLAN



LOWER GROUND FLOOR PLAN.



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THE PLATES.

The Free Trade Hall, Manchester.

EDWARD WALTERS, the architect of the Free Trade Hall, Manchester, was the son of John Walters, an architect who flourished in London at the beginning of the nineteenth century. He designed numerous buildings in Manchester besides the one now illustrated from drawings by Mr. Gordon Cumm, his finest work including the Manchester and Oxford Bank in Moseley Street, the offices of the Liverpool, London and Globe Insurance Co. in Kings Street, and many important warehouses. The characteristics of Walters's buildings are—horizontal and vertical sub-divisions well proportioned, cornices bold, defining features, doorways rich in well-considered ornamentation which is never a travesty of an historical prototype. The Free Trade Hall was completed and opened in 1856. The façade in Peter Street is 100 ft. in length and 75 ft. in height to the top of the arcade.

Master Medallion from No. 29, Great George Street, Westminster.

Most of the fine old houses that stood in Great George Street, Westminster, have been demolished, but fortunately some relics of their interior decoration are preserved in the Victoria and Albert Museum, South Kensington, where the beautiful plaster medallion shown on the plate may be seen. It originally occupied a position over a mantelpiece. The work is from the late eighteenth century and suggests the style of Robert Adam or Sir William Chambers. The figures within the oval are extremely graceful, and modelled with rare skill, while the manner in which the scrolls and its ribbons are arranged displays subtle qualities which merit the closest attention.

Eighteenth-Century Wall Tablet.

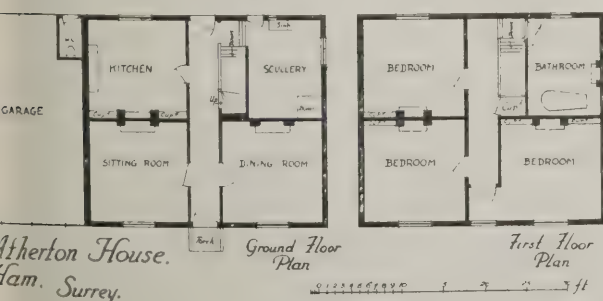
As already stated, there are some examples in this issue of wall monuments which we have not been able to identify. The example now illustrated is one of them. From the inscription, which is a bold specimen of Roman lettering, it would seem that this tablet is in a South Country church.

Garage at St. Albans.

This garage has been built to harmonise with an existing flint and brick cottage in the Old London Road, St. Albans. Accommodation has been arranged for two full-size cars with a chauffeur's bedroom in the roof. The cost was approximately 4d. per foot space. Messrs. Richardson and Gill, F.F.R.I.B.A., were the architects, and Messrs. Blow and Peters, of St. Albans, the builders.

Atherton House, Ham.

This house belongs to the early years of the nineteenth century, and is a very pleasing example of a simple little brick residence in country surroundings. The trellis porch is a piquant relief to the front of the house, the effect of which would be still further improved by the addition of shutters to the windows. The accommodation is shown by the accompanying plans.



New Reredos and Altar, Moseley Parish Church.

This has been executed by Messrs. Jones and Willis from designs by Messrs. J. A. Chatwin and Sons, of Birmingham, as part of recent alterations to the church. It is of interest to note that the body of the church was rebuilt towards the end of the eighteenth century, and this building, which was of plain brick with semi-circular windows, was rather cleverly converted by Rickman into a Gothic one by the insertion of the usual cast-iron tracery windows with small stone buttresses between. In 1885 a north aisle was added, in 1898 the chancel and transept, and in 1909 the nave was rebuilt and a south aisle constructed. The tower is part of the original church, built in 1514, and is interesting as an early example of brickwork faced on the outside with stone.

Southport Cottage Hospital.

This hospital was designed to be erected on the sandhills and to conform to the irregular levels of the site. The cost of the work was about £5,000. The walls are hollow and are built of local bricks white-washed externally. Stone dressings are used very sparingly. The roofs are covered with green Westmorland slates, with lead hips and ridges. Messrs. H. Percy Adams, F.R.I.B.A., and Charles Holden, A.R.I.B.A., of London, were the architects, their design having been placed first in competition. The builders were Messrs. J. N. and J. Petrie, of Southport.

ARTISTS WAR RELIEF EXHIBITION.

ARCHITECTS and artists generally are among those who have been hardest hit by the War, but because they belong to the "professional classes," who are expected to look after themselves, whatever happens, no aid can come to them through the public agencies devoted to the relief of distress arising from the present state of affairs. The professional classes, consequently, have had to turn to their own collective resources for help. The Royal Institute of British Architects has already taken an honourable share in this work, more especially in developing a scheme for the preparation of surveys which will give relief to many architects whose practice has practically come to a standstill, and now, in conjunction with the Imperial Arts League, it has organised an Artists War Relief Exhibition at its Maddox Street Galleries. The exhibition is open daily from 11 to 6 (excepting Saturdays, when the hours are from 9 to 4), and admission is free. Here may be seen a most interesting collection of modern paintings and drawings, which are offered for sale at extremely moderate prices, ranging from one guinea upwards. The originals have, for the most part, been presented by the artists, and this generous action will, it is hoped, enable a substantial sum to be realised from the exhibition. Up to the end of last week, we understand, sales to the extent of nearly £400 had been effected.

There are many excellent exhibits. Among the oil paintings we noted especially a fine landscape of Windsor from Eton Wick, by Mr. Herbert J. Snell; two rural scenes, with a striking rendering of shimmering sunlight, by Mr. Edward King; and "The North-West Passage," by Mr. W. Thomas Smith. The water-colours include an astonishing number of good drawings, among them being some by Mr. E. A. Rickards, Professor Adshead, Mr. H. F. Waring, Mr. Mervyn Macartney, Mr. H. M. Fletcher, Mr. Hanslip Fletcher, Mr. Stephen Reid, Mr. Edgar Wood, Mr. Barclay Niven, Mr. A. Troyte Griffith, and Mr. Philip Norman; while among the other exhibits are some very brilliant lithographs by Mr. Anthony R. Barker, some splendid examples of Mr. Walcot's etchings, pencil sketches by Mr. Rickards which display his characteristic vigour, and etchings by Sir Ernest George, Mr. W. H. Ansell, and Mr. Percy J. Westwood.

SARACENIC VAULTING.

BY W. HARVEY.

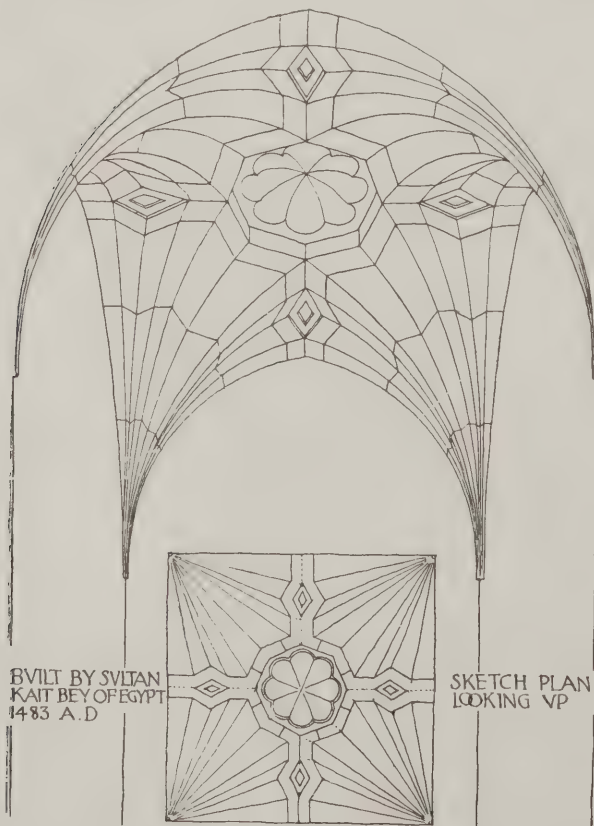
DEVELOPED in lands practically devoid of timber, Saracenic architecture had recourse to the arcade and the vault from an early period, and, partly through necessity, and in part through the employment of architects familiar with Byzantine methods of building, the arcuated style of construction became the fixed tradition of Mohammedan public works.

To the south ancient barrel-vaults existed in Egypt, together with a great number of Coptic churches embodying the principles of vaulting in brick and mortar; while in the north the palaces of Serbistan and Ctesiphon and other works of the Sassanian dynasty contained domes and vaults of great magnitude. Further west the works of the Byzantine Empire contained similar constructional features enriched with the coloured surface-decoration of marble and glass mosaic that was afterwards to play such an important part in the adornment of Saracenic monuments. From these elements the evolution of a distinct style was a gradual process, some early Saracenic works being extremely like their Coptic or Byzantine prototypes; the use of ancient materials, marble shafts, capitals, and bases heightening the resemblance. Other causes of similarity of construction are to be found in the natural and climatic conditions. To afford shelter from a burning sun, and protection against possible earthquakes, thick walls and small windows were naturally adopted in contrast to the Gothic practice of thinning down walls and enlarging windows, which would only involve discomfort and danger to the East, however scientifically carried out. Instead of a series of external buttresses and flying buttresses such as were used in Gothic lands to uphold a high or wide vault, the architect of a Saracenic building obtained stability by arranging the internal walls or arches, subdividing the subordinate parts of the structure so as to buttress the important central vault or dome without intruding a row of projecting buttresses upon the fair surface of

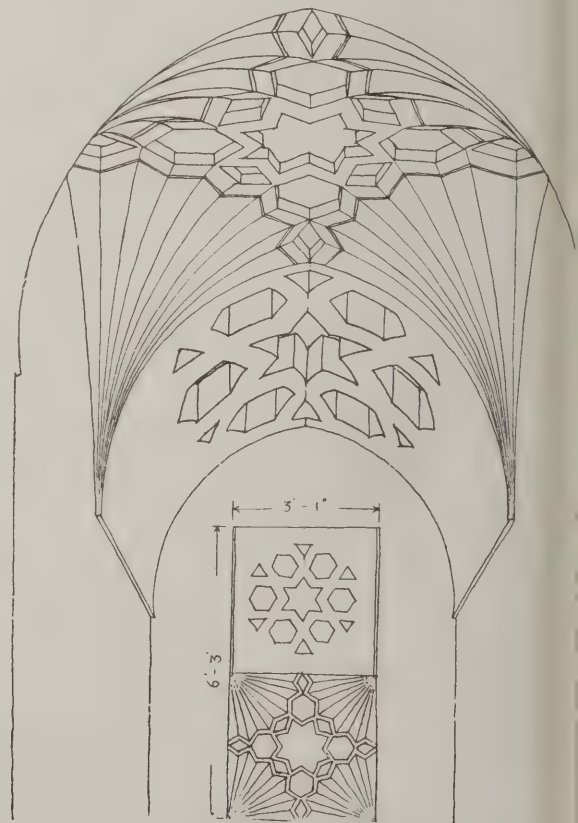
his external enclosing wall, which was thus left free for polychromatic treatment with either marble, tile or particoloured masonry.

The concentration of weight and thrust upon comparatively small isolated supports that was characteristic to such a refined perfection in some of our later Gothic cathedrals and chapels necessarily has no counterpart in Oriental work, in which the opposite principle of diffusion of weight and thrust upon the inert mass of heavy walls or collections of walled chambers followed with remarkable results. Partially ruined domed or vaulted buildings are not infrequently to be seen in Egypt or Palestine, and in many cases where a corner carrying a vault-springer has been broken away, the remainder of the vault still exists, supported by virtue of the coherence of the vaulting material and the absence of any arched ribs that would tear the whole vault to pieces if one support were to be removed.

In addition to buttressing the vaults with thick walls and the careful grouping of subordinate chambers and other devices are used to absorb the thrust of vaults and arches. Tie-bars of iron or bronze, or even beams of wood serving the same purpose, are used to connect the walls or piers at the springing of the arches and prevent any possible tendency for them to overturn its supports. Although at first objectionable to Western eyes, these tie-bars become attractive as they become familiar, and in a Saracenic building they have none of the ugliness of the modern iron tie-bars in Westminster Abbey, where the vertical character of the place, with its soaring lines and clustered mouldings, is flatly contradicted by the insertion of these obviously extraneous elements. In many instances, and notably in the "Dome of the Rock" at Jerusalem, large anchor-beams of much greater dimensions than necessity would require have been used, and profusely ornamented to take the part of a richly wrought entablature below the gorgeously coloured



STONE CEILING, MINARET OF GREAT MOSQUE, DAMASCUS.



VAULTED LOBBY IN A RUINED MOSQUE, CAIRO.

saic-covered arches. The other device for absorbing the outward thrust of vaulting is to build up the haunches of the arches and the vault pockets with a sort of concrete composed of a light chalky stone and mortar to the level of the crown of the vault, which comes, by virtue of the large proportion of mortar employed, practically a solid homogeneous mass cast in shape and possessing the utmost stability obtainable with the materials employed.

The comparative thrust of a barrel-vault with that of a dome on corbelled pendentives is very clearly simplified in the Mosque of Sultan Hassan in Cairo. The great transept of the mosque proper is a rectangle approximately 70 ft. by 87 ft. roofed with a single inverted barrel-vault springing about 40 ft. and rising to a height of 90 ft. from the pavement. The walls supporting this colossal arch measure nearly 30 ft. in thickness, with chambers hollowed out of their bulk. The transept stands the tomb-chamber, 77 ft. square, vaulted with a pointed dome on corbelled stalactite pendentives. Although the apex of the dome is perched more than a hundred feet in the air, the walls are only about 11 ft. in thickness, or one-seventh part of the clear span instead of one-sevenths, as in the case of the great vault. Three smaller barrel-vaults 90 ft. high of the same mosque are supported upon walls of about 11 ft. thickness, or approximately one-fourth of the clear span of 47 ft.

In modern house construction in the Jerusalem district the proportion of 1 to 5 for the thickness of wall to that of clear span is very generally adhered to if the vaulting springs at no excessive height from the floor. In the case of the four barrel-vaulted transepts of the Mosque of Sultan Hassan the haunches of the vaults are only partially filled in, so that the upper segment of the curve is visible from the roofs of the adjoining transepts of the mosque, the colossal scale of the building making it expedient to forgo loading the vaulting to the extent of its whole height.

During the fifteenth century a charming style of vaulting was invented, examples being found in Cairo, Jerusalem, and Damascus of approximately the same period. Sometimes quite minute in scale, this development embodies the same principles of construction and abutment as had been shown in earlier works, yet exhibiting by haphazard a marked similarity to fan-vaulting produced in England about the same time. A series of inverted quarter conoids springing from the corners of the apartment, with their centres in contact at the centres of the four walls, supporting a recessed slab or small saucer-dome in the

centre of the ceiling, is the typical arrangement. Instead of the moulded ribs carved into the surface of the Gothic conoid, still more fan-like ridges and furrows are formed, so arranged that at the crown of the vault small panels of varying shape can be inserted between the adjoining conoids. In general the springing of the vault (the apex of the inverted conoid) dies into the corner of the room without any ornamental corbel or colonnette; the Saracenic idea that the vault should be one with the wall preventing the pious deception that the weight of the vault is conducted down on a thin pipe-like stem to the ground.

The eastern principle of diffusion of weight and thrust is sometimes emphasised by carrying horizontal courses of alternately cream and red stones round the vault surface and arranging them to match the arch stones at the faces of the vault. The fine porch to the brass bazaar at Cairo, and that standing before a Koran school entered from the Haram-esh-Sheruf, in Jerusalem, have both this added colour-interest. In the Cairene example a low dome with a curiously arranged spiral of dark and light voussoirs occupies the crown of the vault. The same place is taken in the Jerusalem example by a recessed cross-shaped panel filled in with a geometrical design carved in low relief. In both cases the colour-scheme of the vaulting is continued over the adjoining wall surfaces and elaborated with inlays over the doorways. A miniature vault over a lobby in a disused mosque outside Cairo is interesting on account of its combining with the fan-vaulting a bay of barrel-vaulting pierced for ventilation with a geometrical pattern. Turret chambers and stair landings of minarets have frequently dainty little ceilings following upon much the same type, and one at Damascus has a close resemblance to Egyptian work. The minaret containing it was erected by the Sultan, Kait Bey, of Egypt, A.D. 1483.

In Jerusalem, where even now practically all buildings are vaulted, many forms are to be found intermediate between the fan vaults just mentioned and domes on pendentives; and it is not at all unlikely that the fan-vaulting is an adaptation from the pendentives of a dome, the dome itself having shrunk by degrees in different examples until it could be replaced by a mere central slab or a saucer-dome of miniature scale. Growing in the most natural manner from the broad surfaces of the adjoining walls, and following the curve of slightly horseshoe arches of exquisite contour, these most elaborate constructions have all the repose of the Orient combined with an easy grace and a sparkle of fancy expressed in honest straightforward construction.



Koran School, Jerusalem.



Brass Bazaar, Cairo.

CONCRETE AND STEEL SECTION

(MONTHLY.)

REINFORCED CONCRETE AT WALLASEY TOWN HALL.

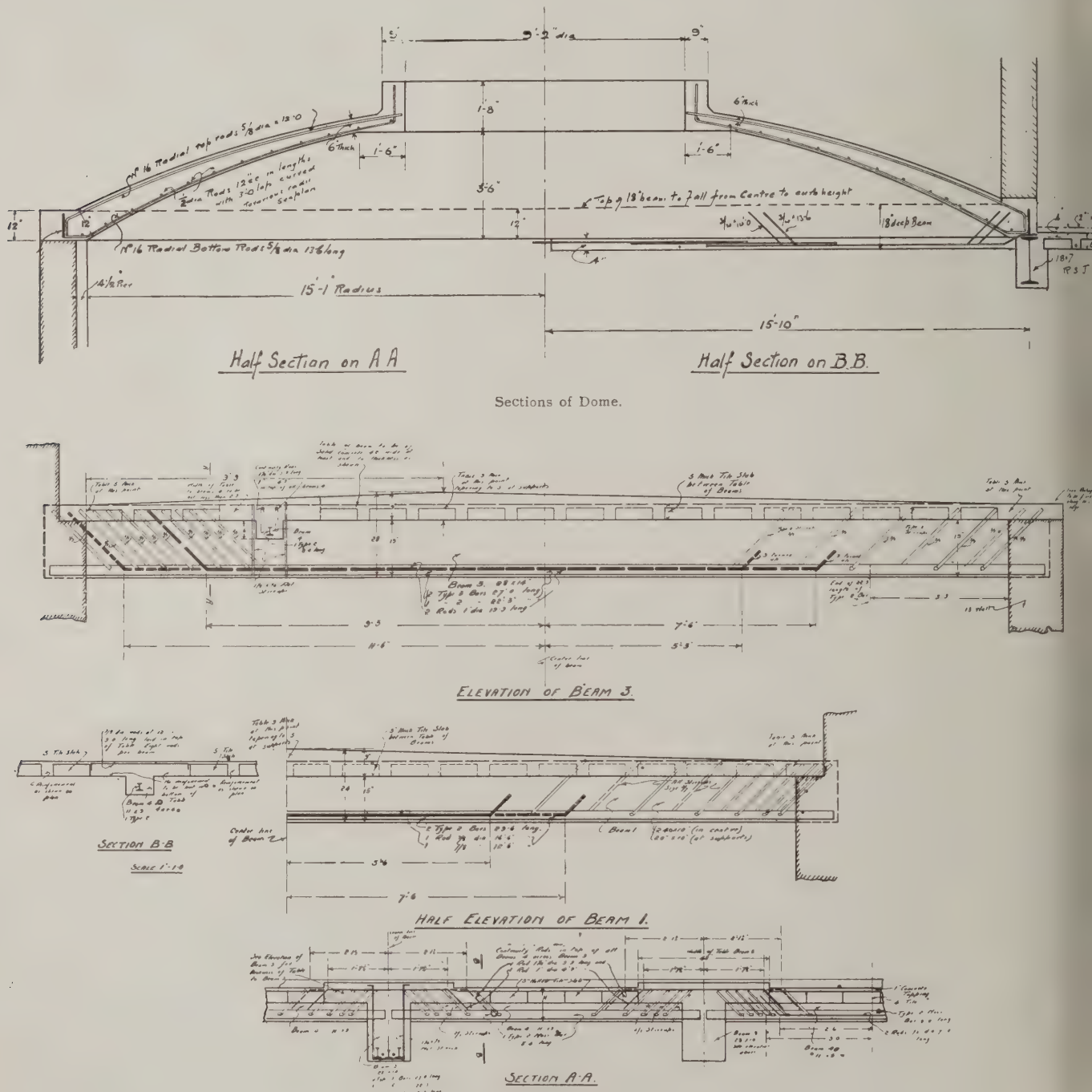
Wallasey Town Hall, the architects of which are Messrs. Briggs, Wolstenholme and Thornely, occupies an important river site on the Cheshire side of the Mersey. The building is rapidly approaching completion. The view on the opposite page gives a general idea of the complete block, with the exception of the central tower, which will rise to a height of about 150 ft. from the ground.

The original quantities issued to the builders provided for the whole of the

floors to be in reinforced concrete, and for all main beams to be in ordinary steel-work. It was found, however, that if reinforced concrete were used for the beams a saving could be effected, but the architects stipulated that such a saving would only be entertained if the reinforced-concrete beams were of the same strength as the steel ones provided for, and that as far as possible the depth of the beams was not to be increased from what was shown in the steelwork design. The contractors undertook to carry out the work on these lines, the whole of the reinforced concrete being checked by Mr. W. H. Braddock, who acted for the architects.

Owing to the elimination of a large amount of the steel joists originally provided, the work has now become an interesting example of reinforced-concrete construction.

We give typical details of some of the beams, one of the heaviest being No. 3, which has been designed to carry at a point of about one-quarter of the span the weight of the wall and roof of a further additional storey. It will be noted from the details that the floor slabs between the main beams are of reinforced concrete hollow-tile type. This particular type of flooring lightens the dead weight; it is very familiar in London buildings. In



Typical Beam Details.



General View of Work in Progress.



View in one of the Offices.



Entrance Hall and Staircase.

centre of the building is a saucer dome, of which a section is here given. Although not a very large dome, it is nevertheless an illustration of the great simplicity with which domes can be constructed in reinforced concrete.

It is worthy of remark that despite the fact that the erection of this building has been proceeded with practically entirely during War time, the work is in a very advanced state as compared with many buildings carried out entirely in steelwork construction which are to be seen standing in a very backward condition in many parts of the country.

The reinforced concrete was designed by Mr. H. de Colleville, A.R.I.B.A., reinforced concrete specialist, of 48, Bedford Row, W.C., on behalf of Messrs. William Moss and Sons, of Loughborough and London, who are both the general contractors and the specialist contractors for the reinforced concrete work in this building.

THE LARGEST HOTEL IN REINFORCED CONCRETE.

Reinforced concrete on a very extensive scale has been employed in the additions now completed at the new Hotel Traymore at Atlantic City, New Jersey, which, being an American establishment, is fittingly claimed to be "the largest fireproof resort hotel in the world." The accompanying illustrations show the chief features of the work.

The extension consists of the addition of an eighteen-storey structure to the older twelve-storey reinforced-concrete building finished about five years ago. The new structure is 238 ft. high to the top of the new large domes, and in addition to being the largest resort hotel in the world, it is also the highest reinforced-concrete structure, with one exception—the tower on the recently completed Robert Gair warehouse in Brooklyn, which rises to 258 ft. above pavement level.

The new hotel building is marked by several special features and by an unusual variety in the types of construction used. Among the features which will be described in some detail, the more important are the tests of piles in sand foundations, the several types of floors and columns used, the many offset columns, the construction of heavy reinforced-concrete cantilever girders, and the large domes and connecting gallery at the roof.

The structure covers an area of 140 ft. by 520 ft. Above the fourth floor, which is the first bedroom floor, the main building is about 54 ft. wide, and three wings are carried successively two, three, and four bays out from the main building in order to ensure a maximum number of rooms with an ocean view. Above the eleventh floor the building reduces in plan at each floor until it is finally capped with the two large central domes and a smaller dome over the fire tower. This reduction in plan resulted in many offset columns requiring heavy supporting girders, and the domes and galleries further added to the complication in form work. In spite of the difficulties of construction, however, the building was erected in record time, only nine months having been required to complete the new work.

As an indication of the number of offsets and resulting structural problems, it may be stated that in addition to the 170 columns resting upon the foundations there are 132 columns starting from girders on the various floors. Of the forty-one columns at the springing lines of the domes, only nine continue down to

their own foundations, the other thirty-two being supported by girders at various floors.

The foundations on sand were constructed of reinforced-concrete mattresses on timber piles. The piles averaged 18 ft. long and were jetted into place, then tapped with a steam hammer. In designing these foundations it was necessary to take into consideration the variable heights. During erection some piles were fully loaded far in advance of adjacent piles; in fact, there were times when piles in one cluster had five times the load of those in an adjacent cluster. Therefore, to overcome the tendency to unequal settlement, the rather low unit load of 15 tons per pile was used, considerably less than that adopted in the original building, which was not subjected to this condition.

The results of a series of tests on piles in the sands of an adjacent plot were secured to aid in determining the allowable load per pile. It was found by these tests that a long 32-ft. pile was little more effective than a short pile about 16 ft. long, and also that a pile by itself developed a greater unit resistance than piles arranged in a cluster about 2 ft. 6 in. centre to centre. The basement walls were reinforced to resist water pressure, assuming a slight reduction on account of the retardation due to seepage through sand. Where retaining walls and secondary tanks rest directly on the sand, 2 tons per sq. ft. was allowed.

The design was made to conform to the Atlantic City building laws, and the usual allowable unit stresses were used. In a

few special cases, where beams supported offset columns with live load from several floors, the unit stress in steel was increased to 20,000 lbs. The live loads per sq. ft. were: Roof, 30 lbs.; bedroom floors, 60 lbs.; laundry floors, 150 lbs., and special machinery concentration; kitchen and main exchange floor, 100 lbs.; garden and slab construction, 200 lbs. The live load on the girders was reduced 10 per cent. when 100 sq. ft. or more of live load was carried, with 2 per cent. additional for each additional 100 sq. ft. The live load on the columns was reduced to 5 per cent. per floor (except for roof, top floor, and exchange floor) until 50 per cent. was reached, when such reduced load was used throughout the remaining floors.

The mushroom-slab floor with four-way reinforcement was designed for a moment of $WL/24$ at the centre of diagonal bands and $WL/12$ at the centre of the straight bands. All rods were carried to the quarter points of the adjacent panel, which doubled the reinforcing steel over the columns where the rods were bent up to within 1 in. of the top of the slab. The column caps were made one-fourth of the span in diameter and designed for the bending produced by unequal loading. Three types of columns were used—square or rectangular concrete columns at 500 lbs. per sq. in., reinforced with $1\frac{1}{2}$ per cent. of vertical rods tied with $\frac{1}{4}$ -in. rounds 12 in. on centres; hooped columns of 1,000 lbs. per sq. in. on the concrete inside the hooping, with vertical rods and hooping designed by the Considère formula; and structural steel cores at about 15,000 lbs. per sq. in., with fireproofing concrete cas-

ing counted only as increasing the r of gyration of the column.

The domes were designed for true action, the horizontal reinforcing being completely around the domes to resist the thrust from the of the dome above the ring designed. were used as arched beams on the int of the shell. Where openings were of the domes secondary members were incorporated above and below to take up stress.

The main exchange floor is of the room-slab type and forms the ceiling of the grill room in the basement. In centre intersecting reinforced-concrete beams support the glass bottom of a to enable the guests in the grill-room see the fish in the pond in the ce. Around the pond is an earth garden with this mushroom system supports. mezzanine and first floor are mainly span tile-and-concrete slabs on reinforced concrete beams, forming panels to conform to the architectural features. number of columns are offset on this floor, and steel beams fireproofed with stone concrete are used for their support. On the central wing of the second floor large steel girders were used to support the columns coming upon them from the thirteenth floor, thus eliminating the columns from the dining-room. A second floor typical reinforced-concrete beam-and-slab construction is used.

All offset reinforced-concrete columns were dowelled to their supporting girders by the use of four $\frac{3}{4}$ -in. round dowels 3 ft. long extending 18 in. into the columns. When steel girders were used these dowels were placed in punched holes in the top flanges, and where reinforced concrete beams were used they were properly set before pouring the beams. On the fourteenth and fifteenth floors many cantilever beams supporting large brick buttresses extending 3 ft. below the dome, and projecting out to a maximum distance of 13 ft. from the columns.

Unusually heavy reinforced-concrete girders of 44-ft. span in the roof above the twelfth floor are shown in the illustration, the special cantilever beams supporting them being shown in elevation on the page. These cantilever beams support their overhanging ends the adjacent fourteenth-floor loads on reinforced-concrete columns and the twelfth-floor load on steel hangers and anchor plates. The steel reinforcing in these cantilever beams and the heavy supporting girders should be noted, especially the manner of bending the rods in the cantilever ends.

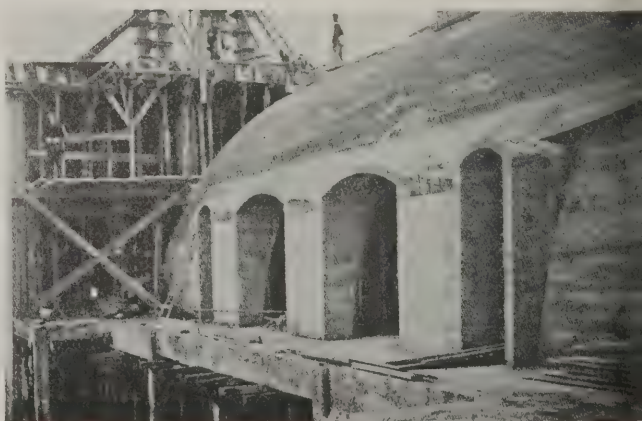
The usual type of reinforcing used



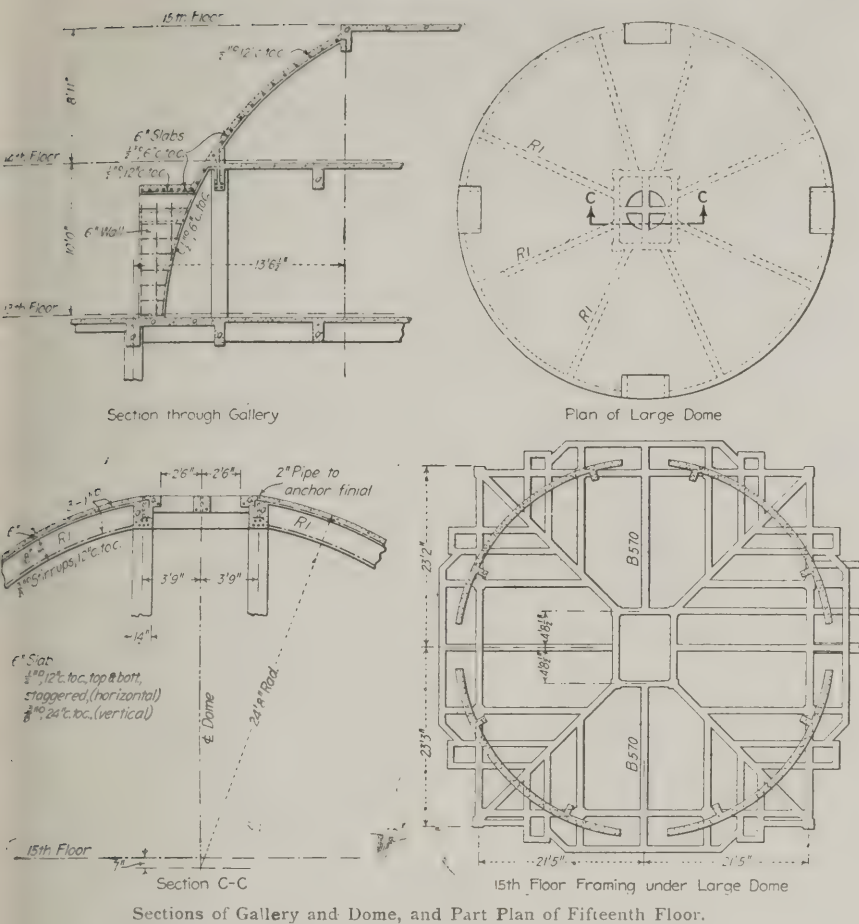
General View



Detail View of Domes and Upper Floors.



Detail at Thirteenth Floor Level.



HOTEL TRAYMORE, ATLANTIC CITY.

many cantilever beams in this building indicated by the illustration of one of the beams in the fifteenth floor. At this many cantilever beams are necessary. The two main central domes are about 150 ft. in diameter and are constructed of circular reinforced-concrete slabs with vertical arches, as shown by the accompanying section and plan. Horizontal steel rods $\frac{1}{2}$ -in. square on 12-in. centres staggered top and bottom are used in the domes to take the thrust as already mentioned. The central columns were introduced after the first design was completed. Part of the fifteenth-floor framing shows the complicated nature of form required for the beams of this floor, the supports for one dome. Each dome weighs 240 tons, two-thirds of which are carried by concrete girders or beams as shown.

Considering the great variety of problems involved, it is probable that the structure as a whole is one of the most complex ever constructed in reinforced concrete. The architects were Messrs. Price and McLanahan. The structural work was designed by Messrs. Otto H. Gentner, jun., and F. Dickinson Shaw, and carried out by Cramp and Co., all of Philadelphia.

New London Buildings.

New buildings are to be erected on the site of Nos. 3 and 4, Berners Street, London, W., from designs by Messrs. Slater and Keith, and Mr. F. M. Elgood. In Lombard Street a new block of offices is being built by Messrs. Trollope and Sons and Colls and Sons, from designs by Messrs. Dunn, Watson and Curtis Green. In King William Street new business premises are to be erected from designs by Mr. Herbert Knight.

CUTTING STEELWORK WITH THE OXY-ACETYLENE FLAME.

In view of the practical use to which the oxy-acetylene flame is now put in welding and cutting metals—its use in building construction work being especially the cutting through of iron and steelwork—the following notes are of interest:

Generation of Acetylene.

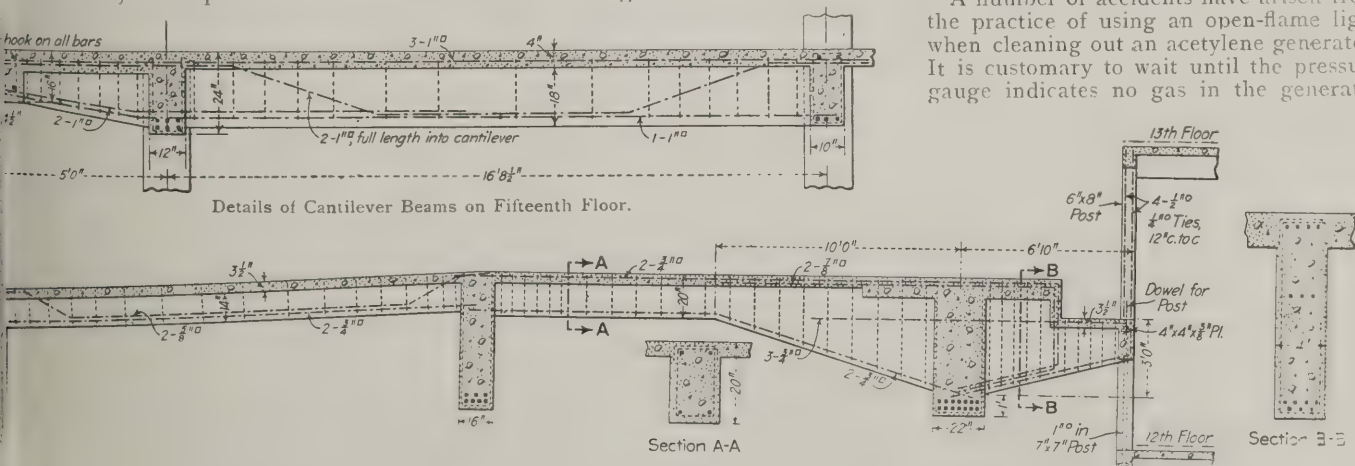
There are two methods of generating acetylene for welding and cutting operations—one the carbide-to-water method, the other the water-to-carbide method. The first makes use of a cylinder partly filled with water into which calcium carbide is dropped by a mechanism controlled by the pressure of the gas in the cylinder. This has the double advantage of producing the largest volume of gas per unit of carbide, while the gas is also separated from certain of its impurities by bubbling up through the lime water. On the other hand, the water-to-carbide method is apt to reduce the calorific value and the amount of acetylene produced per unit of calcium carbide, and at the same time to form a tar product which clogs up the pipes, valves, and torches. For these reasons, among others, generators of the carbide-to-water type are recommended.

The "Torch."

A great deal of the success of oxy-acetylene welding depends on the torch. The low-pressure, or injector-action, torch is used with acetylene under a pressure of a few ounces. A chamber in the torch permits the accumulation of a small quantity of acetylene, and the oxygen passing through this chamber, under pressure, carries along a certain amount of acetylene, usually in quantities of 1 part of acetylene to from 1.6 to 1.8 parts of oxygen. This excess of oxygen, besides being wasteful of the oxygen itself and increasing the length of time required for making the weld, tends to oxidise the metal, thus forming a brittle, unsatisfactory joint. To overcome this defect the high-pressure or positive-mixture torch was designed. In this torch both the acetylene and the oxygen are admitted under pressure, the ratio being 1 part of acetylene to 1.13 to 1.15 of oxygen. Since both the acetylene and the oxygen are under a pressure of several atmospheres, reducing valves and pressure gauges are employed to regulate the flow of the gases in the correct proportion so as to produce rapid and satisfactory welding and cutting.

Precautions.

A number of accidents have arisen from the practice of using an open-flame light when cleaning out an acetylene generator. It is customary to wait until the pressure gauge indicates no gas in the generator



HOTEL TRAYMORE, ATLANTIC CITY.

before cleaning operations are started. Sometimes a small pocket of the gas remains, however, and may burn the workman when ignition takes place from the open flame. Calcium carbide will occasionally cake on the sides of the generator tank, and unless the water is removed at once the caked carbide will generate gas as it is knocked from the tank and may ignite and burn the workman. A portable incandescent electric lamp should be used instead of an open light, and the lamp bulb should be protected against breakage by a fibre or wire guard.

The tubes or hose connecting the torch with the acetylene and oxygen supply are constantly subjected to twists, turns, and abrasive action, and are apt to be so weakened that minor leaks occur, or the fastenings may become loosened and permit gas to escape. The torch itself provides a flame that will ignite the escaping gas, or the sparks from the welding or cutting operation may also light it. Occasionally gas escapes from loosened fastenings and gathers about the clothing of the man wielding the torch. Sparks from the burning metal then cause the gas to ignite, severely burning the workman. This indicates that the hose fastenings and the hose itself should be frequently inspected to see that no leaks exist or are likely to occur during an operation.

It is essential that coloured glasses be worn by everyone connected with oxy-acetylene welding or cutting work. Not only should the eyes be protected from the intense light of the oxy-acetylene flame, but also from the very fine, slag-like substance that occurs during the operations, a substance which is decidedly harmful to the eyes.

THE INCREASED COST OF BUILDING.

We take the following from the "Western Mail," of Cardiff:

Probably no industry in the country has suffered so much from the effects of the War as the building trade, and the results have been greatly emphasised in many districts in South Wales. The employers did not give a war bonus to their workmen, but, what was even better, they granted an increase of wages in May last, and a further advance takes place on October 1 next. This, in itself, means a substantial addition to the cost of building, but the extra expense does not end there, and it is estimated that a house which would cost £400 a year ago could not be erected to-day under £500 at the very least. Timber, for instance, has advanced in most cases 50 per cent. This is owing to the fact that many of the leading timber ports have been closed since the commencement of the War, such as Memel, Dantzig, Riga, Uleaborg, Königsberg, and other Baltic centres, and in addition importers have to pay very much enhanced rates of freight. From Archangel the freightage is from £7 5s. to £7 15s. per standard, or an increase of over 400 per cent. on the rates which prevailed a year ago. From Vancouver shipowners are now asking £20 per standard, which is £5 per standard more than the goods could be purchased for before the War.

Glass has advanced 100 per cent., and there has also been a substantial increase in paint, bricks, iron work, and plumbing, the figure in the last-mentioned case being nearly 50 per cent. more.

A peculiarity of the trade, however, is the fact that certain builders who are erecting small houses of a particular description at a cost of £300 to £500 each are busily employed, and are selling the houses

as fast as they are erected, and in some cases soon after the foundations are put in. This is attributable in great measure to the shortage of cottage property. . . . In the suburban districts a considerable amount of building is going on in this class of property, more particularly in Canton and the Heath, where new townships are springing up with great rapidity. . . .

The opinion of experts is that the present state of affairs is likely to continue for many years, and there is no probability that prices of materials will be reduced to any great extent. For many things in the way of building accessories we have been relying on Belgium and Northern France. When the War is over these sources of supply will not be available, because in most cases the works have been destroyed, but even if they were in existence they would be fully occupied in catering for their own needs. It therefore follows that Great Britain will have to rely more upon its own resources, and a largely increased price will have to be paid for almost everything that is used in the construction of buildings.

REPARATION WORK AT PERSHORE ABBEY.

The vicar of Pershore (the Rev. F. R. Lawson) has issued a report on the work of reparation at Pershore Abbey. In 1912 an examination after the removal of ivy from the south transept disclosed a danger of settlement in the west wall, while the tower itself showed signs of giving to the west. A committee was formed and the work of repair begun. The transept wall has been well repaired, the larger and more ancient cracks being filled with fresh stone and the smaller ones grouted with cement. Two large flying buttresses now support the tower on its western side and have given it stability. Before this work was completed, in July, 1913, an inspection of the Decorated vaulting of the presbytery was made and very grave peril was found, some of the work being almost ready to fall. The great tie beams of the roof had rotted at their ends, had slipped from the wall-plates, and were bringing a heavy burden upon the stone vaulting. The church was then closed for worship. The architect in charge of the work stated that about £2,000 was required for absolutely necessary repair; further, that it might be found necessary to add additional flying buttresses to the presbytery, and to underpin the south wall of the transept; work requiring fully another £1,000. The efforts of the Parochial Committee had secured almost enough funds to pay for the work first undertaken. For the second and greater need, a wider appeal was necessary. A county meeting was held at Worcester early in September, 1913, and a committee was formed to organise funds, in co-operation with the local committee. A contract for the fresh repairs was accepted, and work began in October upon the roof. The tie beams were either renewed or spliced, and put back upon the wall-plates: the worn-out lead of the outer covering was replaced by reinforced concrete. Early in January last year scaffolding was erected under the whole of the presbytery vaulting, and its careful repair was carried on. No new stone was used, and except for some damage to one of the larger bosses, the whole of the beautiful work was found unharmed, made secure, and cleaned. Some minor repairs included the reglazing of the clerestory windows, which were in a bad condition. On May 18, 1914, the church was reopened. The accounts of the repara-

ration fund show that the work has cost £3,450. The sum collected for the reparation amounted to £3,459 odd. The balance will be used for replacing, in the west door, a late Norman font, which for centuries belonged to the church, and was cast out some eighty years ago to make way for a larger and newer one given away to a gentleman at Kemble. His descendant, Sir R. C. Temple, however, has given it back and it will resume its original place.

NEWS ITEMS.

Germany and the Rebuilding of Belgium.

It is stated that the German authorities have formulated schemes for rebuilding the destroyed towns of Belgium! This would indeed be the climax of effrontery.

Memorial to the Late Lieut. Gladstone.

A memorial stone has been erected in Hawarden Churchyard on the grave of Lieut. W. G. C. Gladstone, M.P., who was killed in action last April. The inscription includes an appropriate Scripture text and the following quotation from his last letter written by Lieut. Gladstone: "The length of existence that comes is not the length of existence that counts, but what is achieved during that existence, however short."

Mill Chimney Collapse at Oldham.

A mill chimney 120 ft. high, built in 1860 at Waterhead, Oldham, was prepared recently for demolition, and it was intended to fire the charges that were to "throw" the chimney. The charges should be fired by the press, but a button by a Councillor. Workmen went into the mill for the charges, but the chimney suddenly collapsed, falling straight down upon its base! Fortunately, nobody was injured.

"Star and Garter" Hotel as a Hospital.

The famous "Star and Garter" Hotel on Richmond Hill has been purchased for £25,000 by the Auctioneers' and Agents' Institute of the United Kingdom, and presented by them to Queen Mary's Hospital for the conversion into a hospital for permanent disabled soldiers and sailors. £30,000 will be spent in adapting the hotel to its new purpose.

An Old City Building.

The old Mill House of the Society of Apothecaries, in Water Lane, Blackpool, is scheduled for demolition in connection with the widening of that thoroughfare. The building, which adjoins the Apothecaries' Hall, contained many curious contrivances for grinding, weighing, and preserving drugs used before the days of steam power and machinery. The Apothecaries' Hall itself will not be affected.

OBITUARY.

The late Mr. Macvicar Anderson.

The late Mr. J. Macvicar Anderson, F.R.I.B.A., who died on June 9 last, left an estate which has been proved at £50,000.

Mr. W. F. Tolladay.

Mr. W. F. Tolladay, builder, of Birmingham, who died on April 25 last, left an estate which has been valued at £6,000.

Mr. F. G. Taylor.

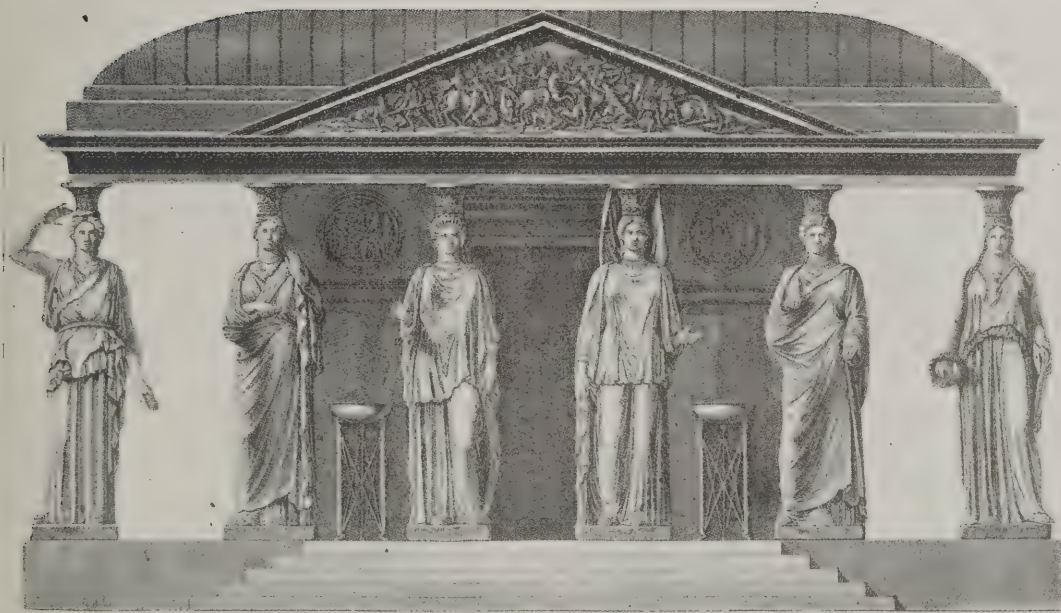
Mr. Francis G. Taylor, building surveyor and assistant borough surveyor, Sunderland, died on August 6. He was one of the oldest Corporation surveyors, having entered the engineer's office in 1873; ten years later he became building surveyor.

THE ARCHITECTS' & BUILDERS' JOURNAL.

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No. 149.



CARYATIES.
(From Piranesi.)

THE ARCHITECTS' & BUILDERS' JOURNAL.

AUGUST 25, 1915.

TOTHILL STREET, WESTMINSTER.

VOLUME 42. No. 1077.

EDITORIAL.

AN effect of the War Loan has been, it would appear, a large withdrawal of deposits from building societies. This effect, it is suggested in a letter that has appeared in several newspapers in Lancashire and Yorkshire, was not contemplated by the Chancellor, who, it is assumed, did not intend "to cause any upheaval or disturbance of existing investments such as moneys on deposit in building societies, mortgages, corporation loans, etc., but rather to secure the moneys which many have in banks and ready at call." What may have been the Chancellor's intention only himself can say; but the effect is fairly obvious from the above-mentioned letter, and from another supporting it, by a building society manager. These writers, while they show no alarm at what has already happened, are obviously anxious lest the stability of building societies should be seriously affected by the allurements of the War Loan—high interest, unquestionable security, and the sanction of patriotism.

In each of these respects, most building societies are at a disadvantage in comparison with the War Loan, but we should be sorry to hear, and we find it very difficult to believe, that they are in any real danger from the competition. They have done, and we trust that they may long continue to do, most excellent work in the encouragement of thrift and of a peculiar sense of property in buildings. By diffusing this general proprietary sense, and by considerably raising the standard of quality in the building of small houses (for a house must be proved to be of sound construction before a mortgage could be advanced upon it) building societies have established themselves as a national asset of high economic, social, and practical value, and whatever check or set-back they may happen to suffer temporarily they will, as an institution, survive triumphantly.

It is sometimes objected that the term "building society" is a misnomer, since these societies rarely or never build, but merely advance money on the security of existing buildings. But whether we are to construe "building" as a participle or as an "adjectival noun" is of no moment. It is enough that building societies deal in buildings if not in building. At first they were known by other names—such as "Society for Obtaining Freehold Property," "Mutual Association," "Society of Equality"; and in Scotland they are most commonly called "property investment companies." In the title to the Act of 1836, the term "benefit building society" occurs, but was not in common use until 1849.

Two or three years before that date—perhaps in 1846—the "permanent" system was adopted, by which the society could go on for ever, as distinguished

from the "terminating" society, which came to an end at a specified date, or when the results particular in its rules had been achieved. Previously all building societies had been on the "terminating" system, consisted of a limited number of members, and to an end as soon as every member had received the amount agreed upon as the value of his shares. The building societies began is not quite clear, but were "building clubs" in Birmingham in 1795, and a society of this character was established with due formality at Greenwich in 1809. It is in the history of England, however, that building societies, like other movements requiring system and co-operation, mostly flourish; hence the discussion on the subject is peculiarly appropriate to the Yorkshire and Lancashire newspapers.

To dwell upon the domestic shortcomings of the friendly power would be rather a breach of diplomatic manners. Hence the housing conditions of Berlin have been hitherto passed over in courteous silence. The alien enemy dead to all sense of decency no such delicate consideration need be accorded, and therefore Mr. T. C. Horsfall will be applauded rather than condemned for his candid revelation, in the "Planning Review" for July, of the shocking conditions of housing in the metropolis of Kultur.

Wide streets give Berlin a false dignity and grandeur, the fact being that it is a grossly overcrowded and very unhealthy city. It has thirty-two thousand inhabitants per square kilometre, as compared with London's fifteen thousand. While in London the average number of inhabitants per house is eight, in Manchester rather more than five, in Berlin the number is seventy-seven, some of the tenement blocks containing as many as two hundred and fifty families each. Forty-five per cent. of these dwellings occupy the front of the courts, the part facing the street being occupied by shops or business premises. Mr. Horsfall shows that London has about 30 per cent. fewer deaths of persons between fifteen and twenty-five years of age than Berlin, where the percentage of deaths from tuberculosis is half as great again as the rate in London. Morality suffers to an even greater degree, the proportion of illegitimate births in Berlin being more than seventeen per cent., against five per cent. in London. Town-planning is in the hands of the town council, which is packed with the owners of these huge tenement blocks, who discourage the erection of houses in the suburbs, prohibit the building of streets, discountenance schemes for improved communication between centre and suburbs, and in every way sacrifice public interest to private greed. It seems, indeed, to wallow in corruption and to mean intrigue.

example is more potent than precept, the Registrars of this country have now to thank New York, as they previously had to thank New Jersey and South Africa, for an encouraging precedent. In our issue of August 11, the provisions of the amended law relating to the practice of architecture in the State of New York were summarised, and the comments of an important New York architectural journal were appended, but no observations from the British point of view have as yet been made. There is, indeed, little to say, seeing that our adhesion to the principle of Registration has been repeatedly declared, and that the details of the New York Act are mainly of domestic concern, although they may possibly reflect the influence of draft provisions that have been drawn up in this country, and, in requital, may perhaps afford here and there a hint for future guidance in framing or amending a British Act.

...point that at once strikes the British reader as requiring careful consideration from the insular point of view is that the examination of candidates for certificates of registration is to be conducted under the supervision of the Regents of the State University; the examiners, however, being five architects of not less than ten years' standing. This arrangement is apparently approved by the architectural "chapters" of America; but it is doubtful whether our own professional organisations would willingly or could conveniently follow this precedent. To what university and so much authority be safely entrusted? Or which of our universities should be in this respect preferred to the others? And would the R.I.B.A. Board of Education care to see a Board of Examiners set over them, though most or all of those examiners were its nominees? On the other hand, it is evident that the university standing for which, during the past few years, the profession has shown an increasing regard, would be in this way definitely confirmed. It need not be that the universities would capture the profession, to the detriment of the Institute, any more than they have captured the medical profession: which, indeed, has rather to hold the universities in fee. But it will be time enough to discuss such nice points when Registration becomes as practical an issue in this country as it now is on three continents.

...is particularly gratifying to us to notice the plea expressed to "The Times" by the President of the R.I.B.A. for some mitigation of the severity of economy—if it can be truly called economy—that is being everywhere advocated with, we fear, inappropriate extravagance. With Mr. Newton's view that a counsel of thrift may be carried too far, to the detriment of the national interests, we are, as our members must by this time be well aware, in entire agreement. If the recommendations of the Parliamentary War Savings Committee that "no one should build a house for himself at this time," and that "decorations and enlargements should be cut down as much as possible," are really based upon knowledge and necessity, then, as Mr. Newton says, there is nothing to do but to face the situation with fortitude and resignation; but the President seems to be harassed by doubt, in which we must confess we share, as to whether these exhortations to stringency are always so lamentably and radically sound—whether they are legitimate deductions from carefully ascertained and digested data, or whether they are not mere hasty generalisations founded on imperfect survey. Clearly though there is a necessity for national thrift; but it is equally clear that to cut down on remunerative expenses is false economy—is to dam thrift at its source. No earnings, no savings; and, like Mr. Newton, we should feel relieved to know that the recommendation he cites is dictated by "the wisdom of

the wise"—that in a matter of such importance, competent professional opinion has been consulted. If this very necessary step had been taken, surely the President of the R.I.B.A. would have heard of it, and his letter to "The Times" need not have been written. We trust that the wholesome advice he has conveyed with so much delicate courtesy may have due effect in the right quarter, where, if the inveterate foible of official self-sufficiency has been discarded as inappropriate to the present crisis, it should be clearly recognised that the object is to help the Government to grapple successfully with a difficult economic problem requiring for its satisfactory solution the expert skill of which too little use has as yet been made, although from the outset it has been freely and abundantly available.

Taking as we found it a reply given by Mr. Tennant, the Under-Secretary for War, we last week commented upon it to the effect that if, as Mr. Tennant said, the services of the R.I.B.A. were not offered to the Government until May last, the offer was strangely belated. We have since ascertained that Mr. Tennant's statement must have been based on inaccurate information, or perhaps on some momentary misapprehension or lapse for which the high-pressure at which the War Office is working affords ample excuse. We are glad to recall—as in common fairness we must—that as a matter of fact the R.I.B.A., acting in conjunction with the Architects' War Committee, offered its services in a corporate capacity to the War Office and to the other Government Departments in September, 1914. In our issue of October 28, 1914, p. 277, we referred to a report of the Architects' War Committee, and quoted from it the following paragraph: "In reply to the letter offering the services of architects to the Government, the Committee have received a letter of thanks from the Right Hon. Joseph Pease, together with an intimation that the letter had been circulated among the Government Departments interested, and an acknowledgment has also been received from the War Office." This is conclusive evidence that Mr. Tennant's reply was in error. He, we may be very sure, will be as sorry to have post-dated the offer of the R.I.B.A. as we are to have given currency to his slight mistake.

Repairs to the east window of St. Bride's Church, Fleet Street, give occasion to a writer in the "Pall Mall Gazette" to say of the church that "were it in Florence or in Bruges it would be far better known than it is, for this climbing mass of glistening white stone has hardly its beautiful equal among the other works of Wren." In Florence it might not be so much amiss, but in Bruges it is unimaginable. And is the "Pall Mall" writer justified in saying of St. Bride's that "the average Londoner is scarcely aware of its existence?" Its tower is more conspicuous and more peculiar than any other church tower in London, and there can be but few of the many thousands of people who daily pass the church in its lurking place down an alley at the south-eastern end of Fleet Street who do not take pleasure, if not in its grey stones, then in its green trees, supposing that the winter has not left them bare. Moreover, there is, adjacent to the church, the flourishing St. Bride Foundation Institute, where thousands of units have received training in various branches of the printing trade. A free library, swimming-baths, lecture and ball-rooms, make St. Bride's Institute immensely popular, and we should say that, on the whole, St. Bride's is the best known church in the City. To say, therefore, that the average Londoner is scarcely aware of its existence is to misapply a well-worn cliché. No church has been more frequently illustrated, and at least one poem has been written about it—in "The Speaker," if we remember rightly, by Miss Werner.

HERE AND THERE.

OPPORTUNELY this week I may talk of colossi, for the Germans have fashioned a great effigy of their soldier-idol, Von Hindenburg, which has been set up in Berlin in front of the Reichstag, and is to be unveiled next month. It is a piece of sculpture calculated not only to stagger the Berliner—and incidentally the universe—by its dimensions, but provides also an attractive means for getting more money into the Imperial coffers; for the statue is of wood, and as many nails are to be driven into it as shall correspond with the national contribution. The idea resembles those schemes, familiar to ourselves, whereby we are invited to buy a penny, a shilling, or a pound brick for some new building. Those patriotic Germans who contribute towards providing wooden Von Hindenburg with a metal armour will each receive a pin bearing the inscription, "For the Iron Hindenburg, 1915." There will be an iron pin for each donor of a mark, a silver pin for those who give five marks, and a gilt pin for contributors of one hundred marks (equivalent to our own five-pound note). Altogether, one million six hundred nails will be required. It seems a sad thing thus to hammer upon the idol; such a procedure might be permissible in the case of a mythical person, or even with the Archangel Michael, but to hit nails into Von Hindenburg is surely sacrilege; funds, however, must be got somehow or other, and all is grist to the German mill. The statue is built up of thick planks and is stated to weigh twenty tons. Each boot is large enough to hide away ten men. The marshal's face has "a serious expression, his eyes a far-away look." In his right hand he holds a sword, while the left is laid over his right arm, holding his cap. The length of the face is stated to be four feet, so on the old basis of proportion for the human figure we may assume that the total height of the statue is about 32 ft.

* * * *

The Hindenburg statue, as I have said, gives occasion to talk of colossi, both ancient and modern. There are many examples to be drawn from antiquity. Egypt affords the earliest and the greatest of these in point of size; so great indeed are the Egyptian colossi that they have withstood alike the ravages of Time and the assaults of Man. At the temple of Abou-Simbel are the huge seated figures of Rameses the Great, two on either side of the doorway, hewn out of the solid rock. Sixty-five feet in height are these awe-inspiring effigies, and almost as high was the seated figure of the same great builder-king, carved in limestone, at the Ramesseum. At Thebes the colossi of Memnon, cut out of red granite, 52 ft. in height without their pedestals, still stand after 3,500 years, mighty witnesses to the colossal art of the Egyptians. Even greater in size is the Sphinx that looks out across the desert at Gizeh. But the head alone remains of this giant piece of rock sculpture, between whose paws a small temple once found space. (In passing we may note that the word "sphinx" is commonly assumed to denote a single mythological form. There were, however, three distinct forms. All had in common the body of a lion, but one, the familiar type with the head of a man, is an "andro-sphinx," another, with the head of a ram, is a "crio-sphinx," and the third, with the head of a hawk, is a "hieraco-sphinx.")

* * * *

The Greeks also fashioned colossi. There was Phidias's figure of Athena Promachos on the Acropolis, that accoutred figure of the Goddess whose helm and spear flashing in the sunlight were a beacon for the sailors on the Ægean. This figure was of bronze, 60 ft. in height. It was made in B.C. 460, and was extant as late as A.D. 395, when it was seen by Alaric;

but every vestige of it has long since disappeared. Equally notable was Phidias's figure within the Parthenon, the chryselephantine Athena, 40 ft. high, whose nude parts were of ivory, and whose robes and ornament were of gold. I believe I am right in saying that the body of this figure was of wood, the gold plates which sheathed it being removable. There was, too, the bronze colossus of Helios, by Chares of Rhodes. This is said to have been "seventy cubits high. As, however, the Greek cubit may be taken as eighteen inches, a height of 105 ft. for the statue is not so fantastic. This colossus stood near the harbour of Rhodes, but the popular notion of it as a huge figure astride the entrance to the harbour, with a beacon in its hand, and ships passing between its legs, has no basis in fact, but owes its origin merely to a mistaken reading of a mediæval manuscript. The statue was thrown to the ground by an earthquake in B.C. 226, about fifty years after its erection, and it remained in that prostrate condition for nearly a thousand years until eventually—so the story goes—it was bought by a Jew and turned into weapons of war. But this *de grâce* also may be questioned.



THE STATUE OF ZEUS AT OLYMPIA.
(From a Water-Colour Drawing by A. C. Conrade.)

ut in point of quality the greatest of all the colossi-
 antiquity was the statue of Zeus. This was Phidiās's
 t sublime masterpiece. Pausanias, that Greek
 eller of the second century of our era whose guide-
 ky descriptions of the buildings he visited are so
 able for their detailed information, devotes a whole
 ter to this colossal statue of Zeus, which was nearly
 t. high and stood within the temple of the Sacred
 ve at Olympia, and as all descriptions of the
 derful work are taken from Pausanias, I think it
 be of interest, in conjunction with the accom-
 ying reproduction of Mr. Conrade's drawing, to
 the following translation from the original: "The
 sits on a throne of ivory and gold, and is adorned
 a crown on his head, made in imitation of a branch
 he wild olive-tree. In his right hand he holds a
 ory, which is also made of ivory and gold, and has
 et and crown on its head. His left hand wields a
 tre of beautiful workmanship, and in the composi-
 of which all metals are blended together. The
 als of the god, and his robe, are of gold; and in
 atter of these, various animals, and of flowers the
 are represented. The throne itself is variegated
 gold and precious stones, with ebony and ivory;
 is adorned with pictures of animals and statues.
 ntains, too, four Victories, each of which is repre-
 dancing at the foot of the throne. There are
 two other Victories at the extremities of his feet.
 re his feet the Theban youth are seen, forced away
 phinxes; and under the Sphinxes, Apollo and
 ia are piercing with their arrows the children of
 re. . . . For the highest part of the throne,
 e the head of the statue, Phidias made on one side
 e Graces, and on the other as many Hours. . . .
 e base, which is under the feet of Jupiter, and
 h they call Thranion, or the support of the feet,
 e are golden lions, and a representation of the
 e of Theseus against the Amazons, which was the
 engagement of the Athenians against foreign
 ns. . . . The god himself evinced his
 obation of the art of the sculptor; for as soon as
 statue was finished, Phidias prayed to Jupiter, and
 ated him to signify if the work was pleasing to his
 ity; and immediately after he had prayed, they
 that part of the pavement was struck with
 ing where even at present a brazen urn is to be
 with a covering upon it. But that part of the
 ment which is before the statue is covered with
 , and not with white stone. This black pavement
 ularly enclosed with a fountain of Parian marble,
 is the repository of oil. For the statue of Jupiter
 obed over with oil, in order to prevent the ivory
 suffering any injury through the marshy nature
 e grove. . . ."

* * * * *

perial Rome provides little in the way of colossi.
 art of commemoration in the heydays of Rome
 the form of great buildings rather than great
 tures—huge baths, circuses, palaces, temples; but
 are at least the colossal figures of Castor and
 x with their horses on the Quirinal. They were
 in the baths of Constantine and commemorate
 ictory of the Lake Regillus "after which they
 before the army to Rome, to announce the joyful
 watered their horses at the Aqua Argentina, and
 passed away from the gaze of the multitude into
 ial spheres." The names of Phidias and
 teles appear on the pedestals of these statues,
 uspicion has been cast on their authenticity.
 e is a fine illustration of the statues among
 esi's etchings.

* * * * *

e Mediæval and Renaissance record is lacking
 ly in examples of mighty figures similar to those
 antiquity, and in the modern world the fashioning
 ormous figures is almost confined to the Carnival

of Nice. We may remember, however, the bronze
 replica of Bartholdi's figure of Liberty at the entrance
 of New York Harbour, and the Germans have their
 colossus of Bismarck, which, however, though approxi-
 mating in size to ancient examples, is lacking in their
 great qualities, being no other than a brutal ghoulish
 pile of stone carved into the figure of a man. And now
 Von Hindenburg has been fashioned in the same spirit.
 I have not seen any illustrations of this newest colossus,
 but I doubt not that it is stamped with the same spirit
 of "frightfulness" which is displayed by the Germans
 alike in the arts of Peace and the science of War. The
 successful accomplishment of a colossal statue
 demands the highest qualities of sculpture. It is a
 thing too subtle for the Huns.

UBIQUE.

BY-LAWS FOR WAR BUILDINGS.

THE number of buildings now being erected all over
 England for the manufacture of munitions is yet
 another proof of this country's unpreparedness
 for taking a leading part in a great European War. If
 the total cost of all such buildings that have been
 necessitated as a direct result of the present War were
 to be calculated, the amount would without doubt be
 astounding. In one of the largest of our industrial
 cities alone the total cubic contents of permanent build-
 ings—not taking into account temporary erections—
 to be used mainly in the production of war materials
 of various kinds, for which plans were approved by the
 local authority during May and June last, amounted to
 considerably over 11,500,000 cubic feet: this would be
 represented by an enormous cube of 226 ft. These
 considerations, while suggesting lack of preparation,
 also indicate in a wonderful way that trait in the British
 character which enables us to attack so nonchalantly
 difficulties which at first appear insurmountable.

For the most part the erection of these factories has
 been and is being carried out in convention with the
 building by-laws enforced by the respective authorities
 in whose districts the buildings are situated. By reason
 of the purpose for which they are built something more
 durable than what is generally accepted as a "tem-
 porary" structure is in most cases necessary; at the
 same time there is no doubt that the type of construc-
 tion required by the average local by-laws is excessive
 for buildings many of which may be useless after the
 War, even allowing for the realisation of the most
 sanguine expectations of increased trade.

The argument has been put forward in certain
 quarters that any factory to be occupied in the execu-
 tion of a Government contract should rank as a
 Government building, and thus be exempt from com-
 pliance with local by-laws; but such a concession could
 with equal logic be claimed in times of peace, and is
 obviously impossible. The officials whose duty it is to
 administer the building by-laws are in the present cir-
 cumstances often compelled to enforce questionable
 regulations which considerably add to the cost of the
 undertaking, and in many instances hinder the progress
 of the work.

The remedy for such state of affairs is by no means
 easy to devise, but the difficulty could to a great extent
 have been overcome if the Local Government Board
 at the commencement of hostilities had issued a con-
 cise schedule of by-laws, embodying also the salient
 points in those clauses of the Factory and Workshops
 Act that relate to buildings, for application throughout
 the country to all new buildings of the factory class
 erected during the War period, these by-laws being
 less stringent than the generality of regulations now in
 force, yet safeguarding the interests of all concerned.
 Perhaps even now it is not too late to take some such
 step.

ARTHUR F. WICKENDEN, A.R.I.B.A., P.A.S.I.

THE PLATES.

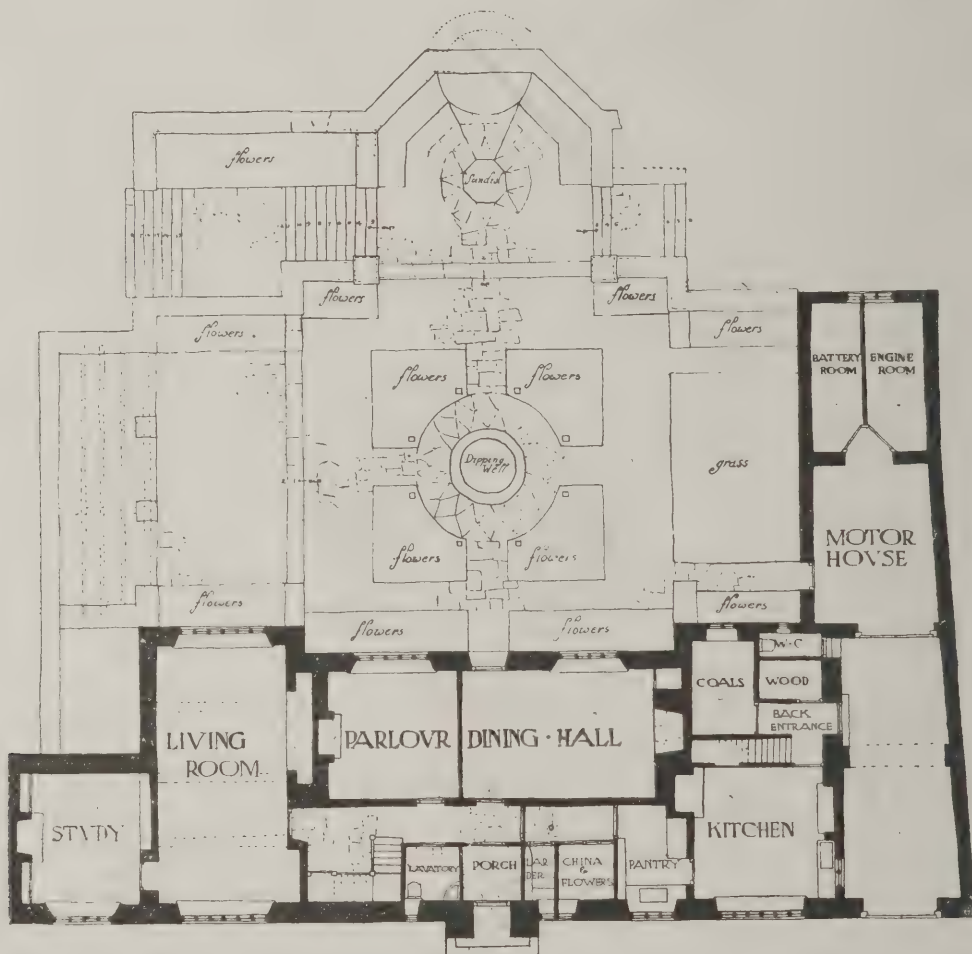
A Wall Tablet.

THIS monument to John Burgess and his wife is in a Gloucestershire church. It dates from the middle of the eighteenth century, and is very characteristic of the period, when there was a vogue for a greater delicacy in classical design. The monument illustrates, too, in the floral enrichment to its enclosing oval border, that tendency towards the "romantic" and the "rocaille" which in due course was developed to such an extravagant degree. Nevertheless, the design is a very pleasing composition,

and serves its purpose in this series, which purports to show examples that offer suggestions for the treatment of modern wall monuments, the need of which will grow, alas, as the War runs its course.

"Home Close," Sibford

Where this house now stands there was originally an old stone barn, and it was proposed at one time to incorporate the barn in the new house. This, however, was found to be impracticable, and an entirely new stone house following the local building traditions was erected from designs by Mr. M. H. Baillie Scott. Lead lights and iron casements



GROVND-FLOOR-PLAN



FIRST-FLOOR-PLAN

"HOME CLOSE," SIBFORD. M. H. BAILLIE SCOTT, ARCHITECT.



TABLETS AND INSCRIPTIONS. X.

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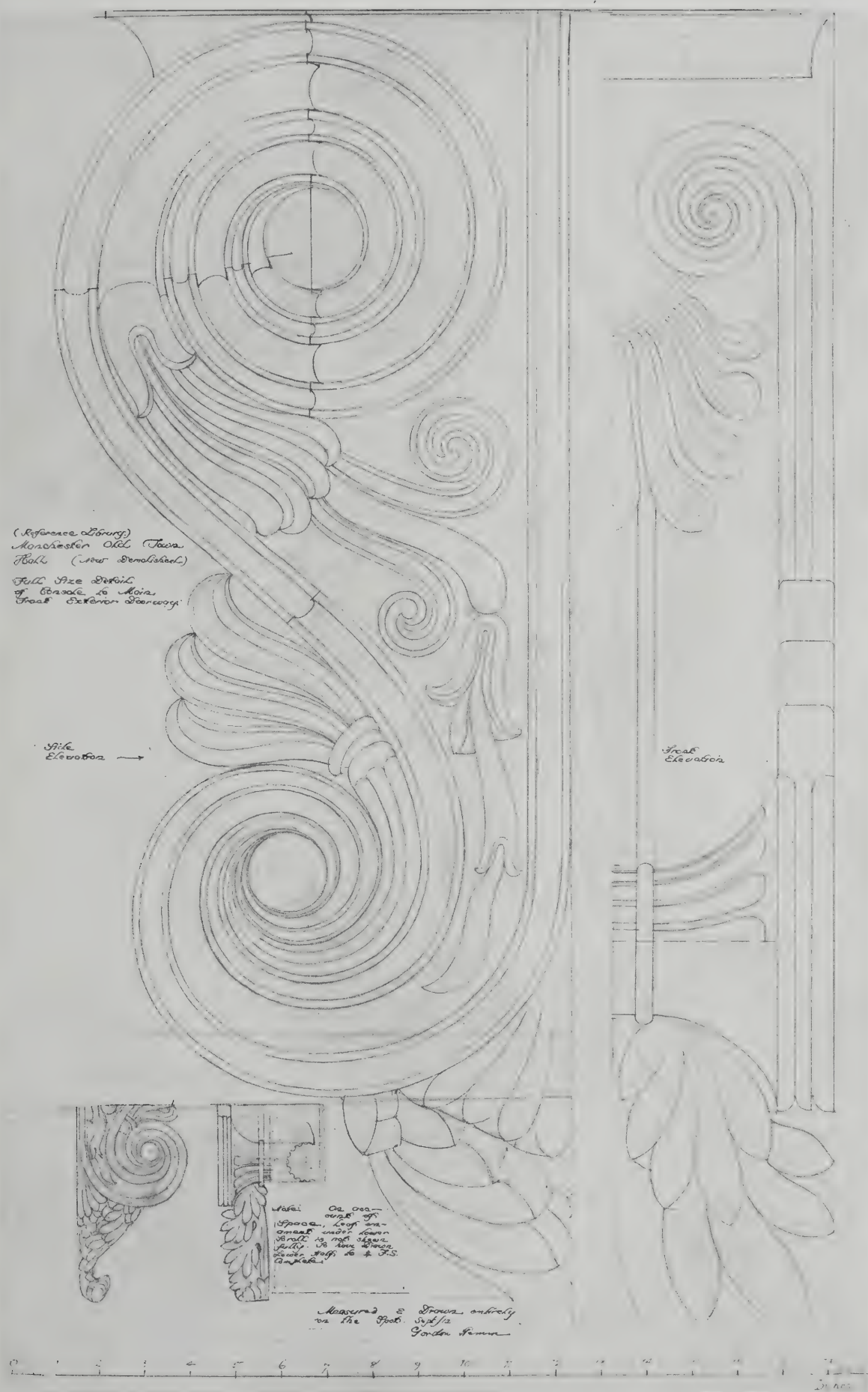
MODERN DOMESTIC ARCHITECTURE (SERIES II.). XXI.—"HOME CLOSE," SIBFORD, NEAR BANBURY;
ENTRANCE FRONT AND FORECOURT.
M. H. BAILLIE SCOTT, ARCHITECT.

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DETAILS OF CRAFTSMANSHIP. XXXII.—DOORCASE FROM NO. 29, GREAT GEORGE STREET, WESTMINSTER, NOW IN THE VICTORIA AND ALBERT MUSEUM, SOUTH KENSINGTON.

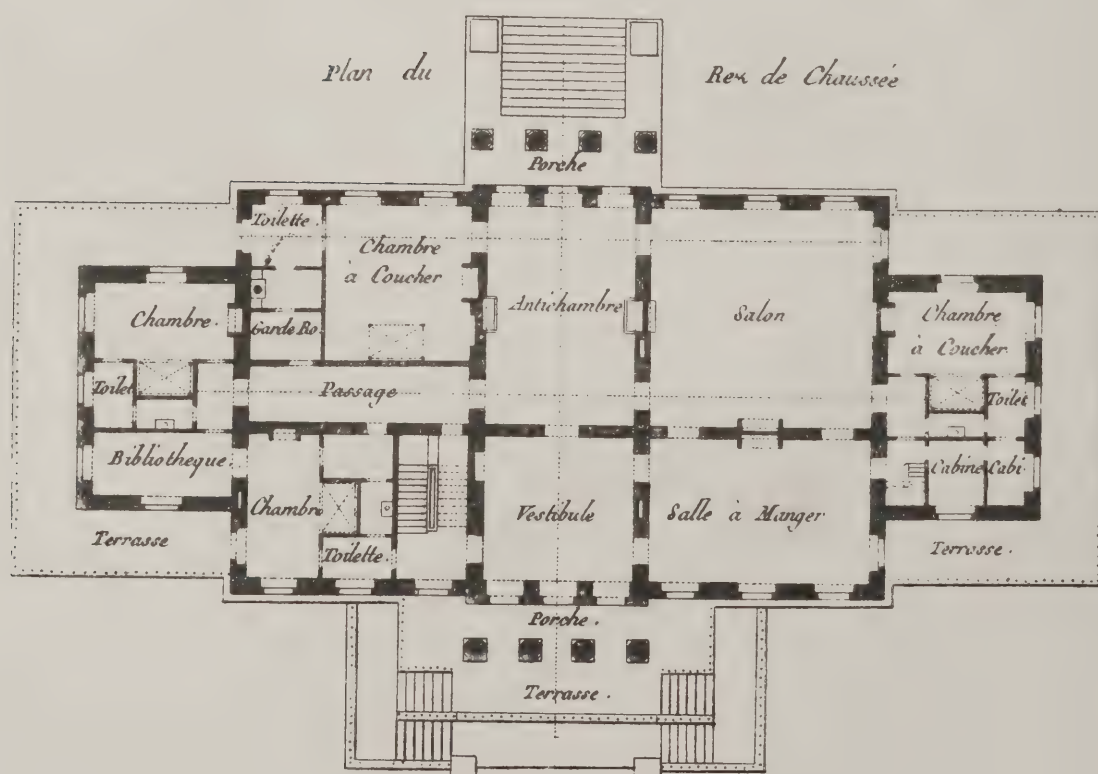
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MANCHESTER OLD TOWN HALL. X.—CONSOLE TO MAIN ENTRANCE DOORWAY.
MEASURED AND DRAWN BY GORDON HEMM.

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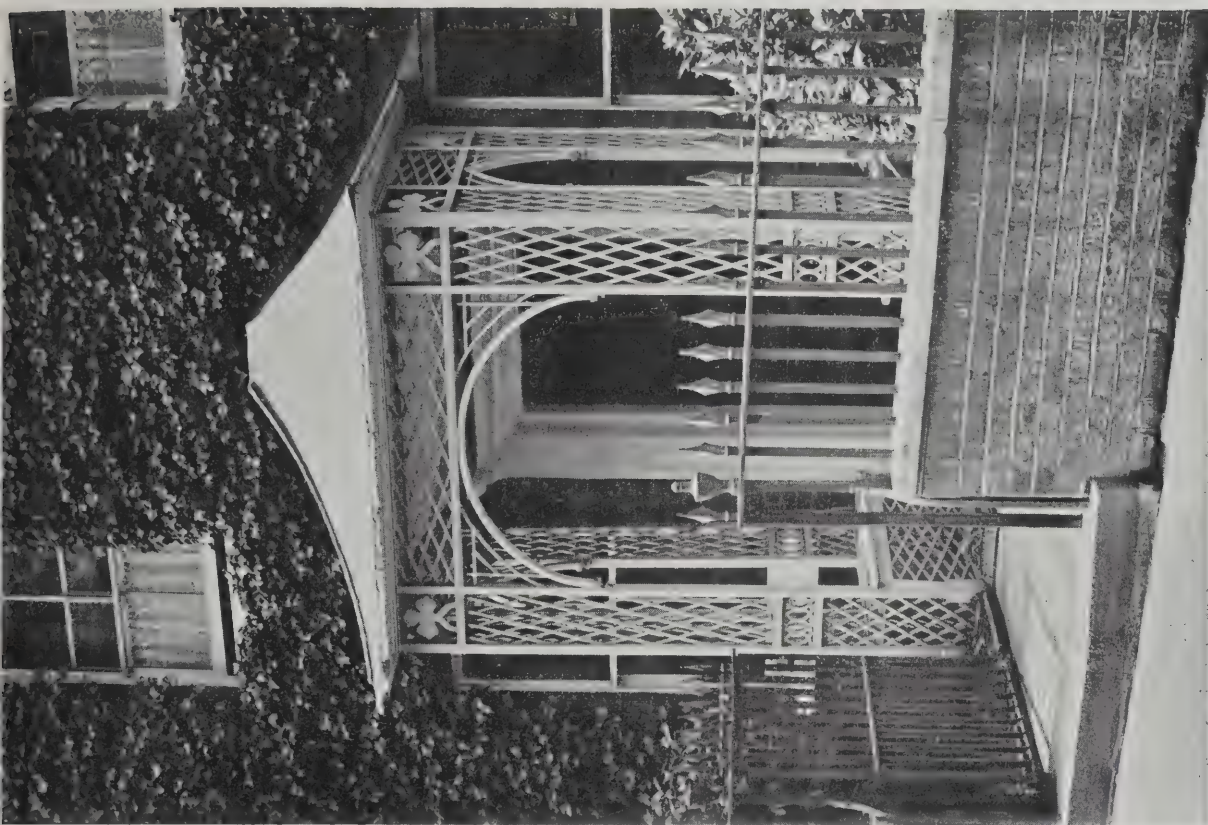




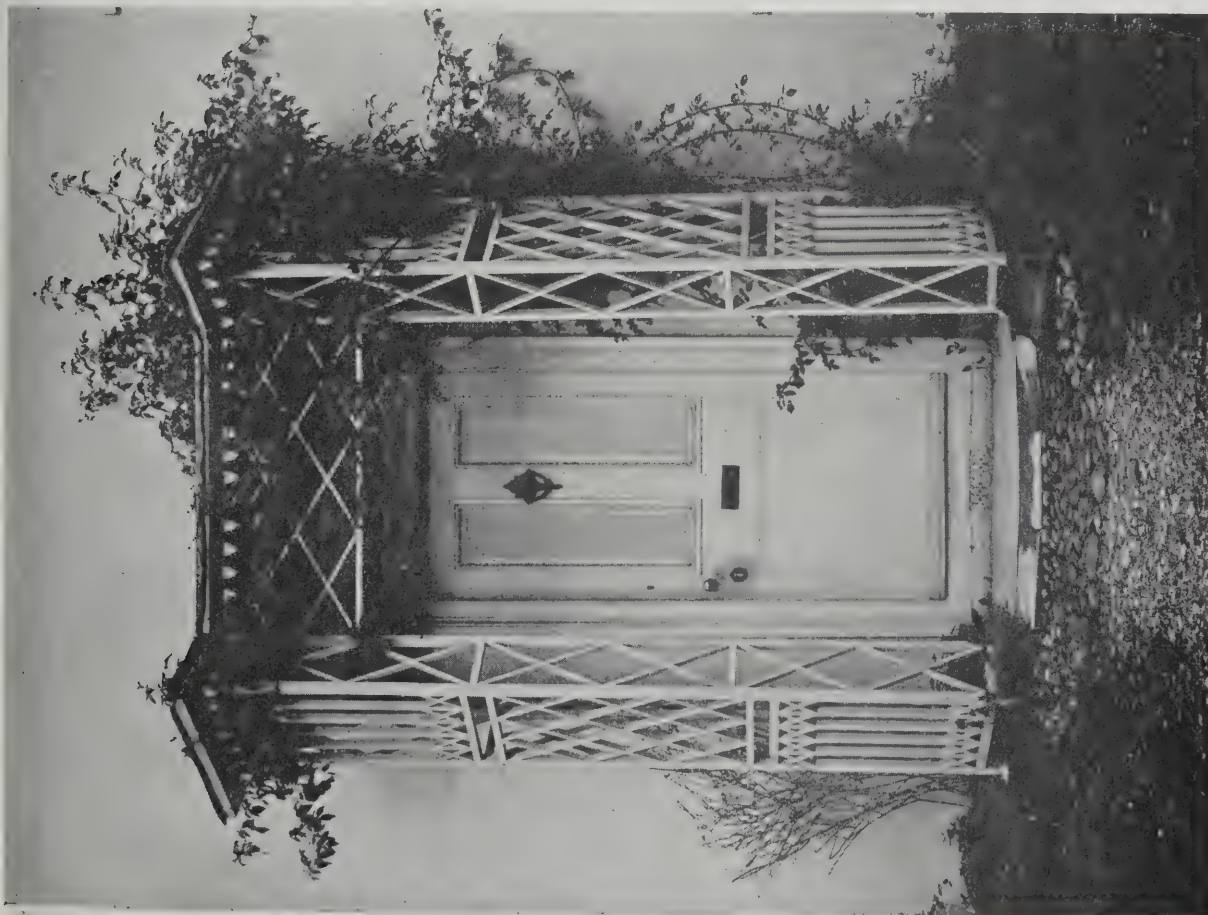
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At Leatherhead.



At Dorking.

SMALL HOUSES OF THE LATE GEORGIAN PERIOD. XLIX.- TWO TRELLIS PORCHES.

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for all windows, and in the dining hall, which is a storey room, a little half-timber work with oak girders was introduced into the upper portion, and the lower portion was panelled in oak. Mr. J. Nicholls, of Gloucester, was the builder.

Doorcase from No. 29, Great George Street, Westminster.

This is another fragment saved from the interior of a fine house which was demolished some time ago. The doorcase is of carved pine wood, and is from the late eighteenth century. The enrichment of the frieze is especially delicate and graceful.

Console from Manchester Old Town Hall.

This illustration shows the console to the main entrance doorway. It is a very bold piece of classical

Château de Moret.

This is one of the most beautiful examples in Krafft. It is very restrained in design and the elevations are admirably proportioned.

Two Trellis Porches.

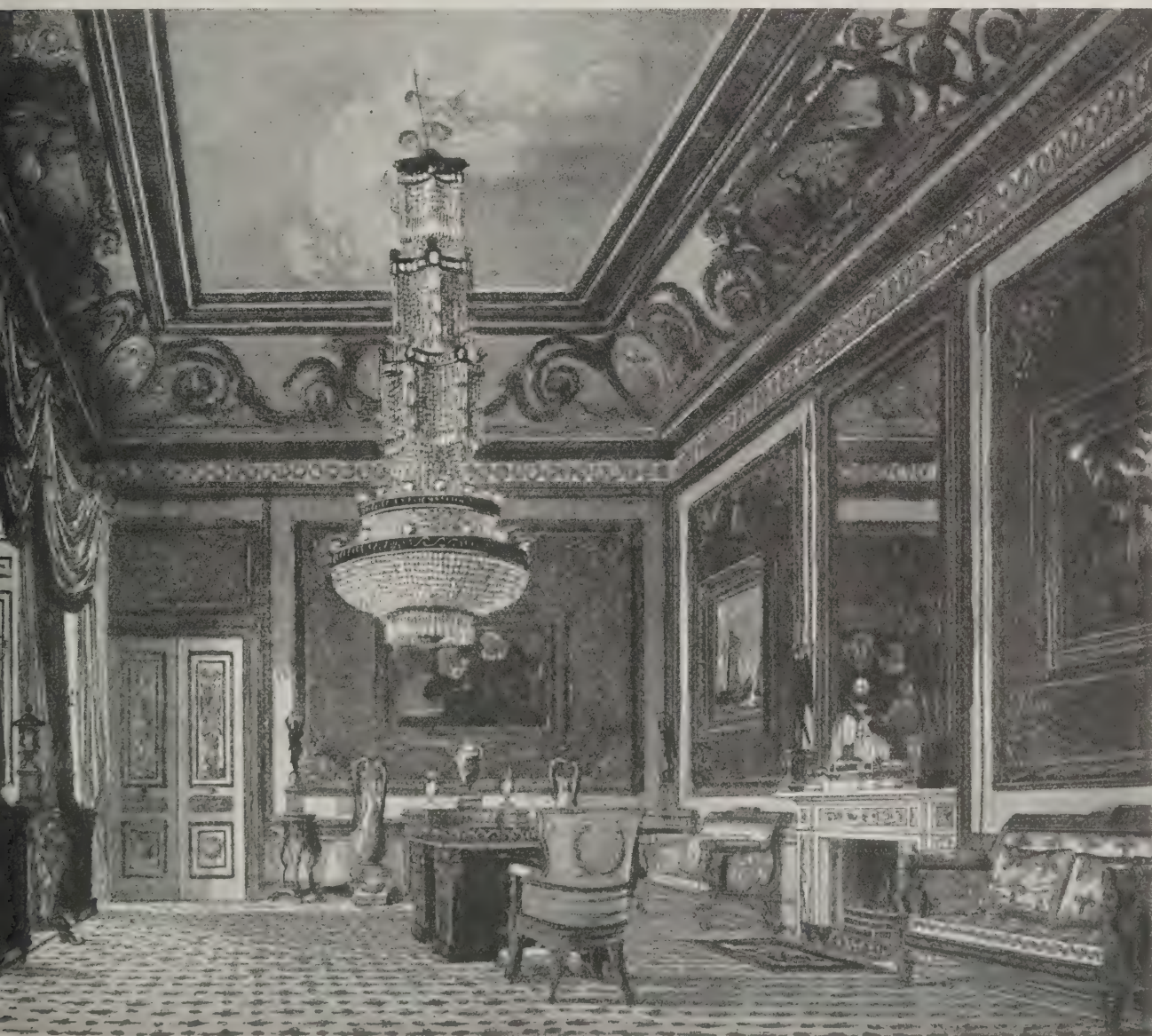
We should welcome a more general adoption of trellis porches in place of those ponderous constructions which seem to be commonly regarded as necessary for protection and shelter to house doors.

These appendages are not only ugly, but they are quite unnecessarily to the expense of the house.

CARLTON HOUSE.

WHAT would one not give for a peep into the splendid apartments of the vanished Carlton House! But all its treasures have long since been dispersed, and we can only turn to the pictorial record in the form of chromo-lithographs. One of these, of the Blue Velvet Room, is here reproduced, and it suffices to show what splendid decoration was carried out, by Vulliamy and Nash, for the Prince Regent. The house stood facing what is now Waterloo Place. The original building was erected for Lord Carlton in 1709, and was bequeathed by him to his nephew, the Earl of Burlington, from whom it was purchased for Frederick, Prince of Wales. Great alterations were carried out in 1788 and further remodelling of the interior in 1815. One of the finest apartments was the Crimson Drawing-Room, which was embellished with most valuable pictures, bronzes, ormolu furniture, etc. Other State apartments included the circular Cupola Room, and the Throne Room, with its gorgeous ante-chamber. On the lower level towards the garden and St. James's Park were private apartments of the Court, which were designed by Nash. They included the Grand Vestibule, the Golden Drawing-Room, the Gothic Dining-Room, the Library, and the Gothic Conservatory.

Carlton House was pulled down in 1828 to make way for the Duke of York's Column.

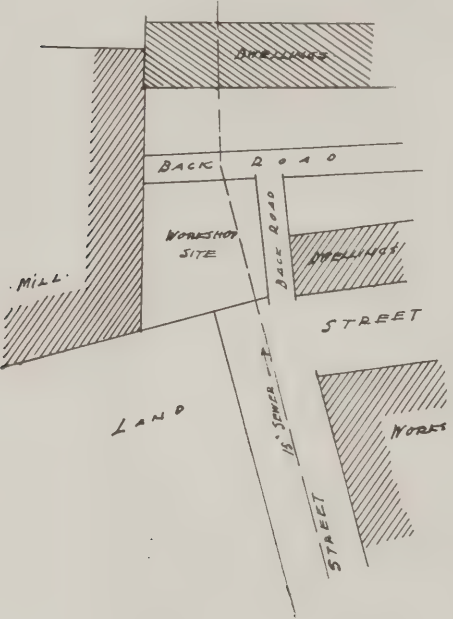


THE BLUE VELVET ROOM, CARLTON HOUSE.

ENQUIRIES ANSWERED.

Liability for Concreting Round Sewer on Building Site.

H. A. writes: "I should be glad of your advice in connection with a proposed new workshop, the site of which is shown by the accompanying plan. Since taking over the site we have discovered that the Corporation have a sewer, 15 in. diameter, 12 ft. deep, crossing the site, as shown by the dotted line. There are no agreements to be found, and apparently the sewer



has been there for more than twenty years. Can the Corporation compel the owners to bear the expense of concreting round the sewer before building on the site, or should the Corporation bear the cost?"

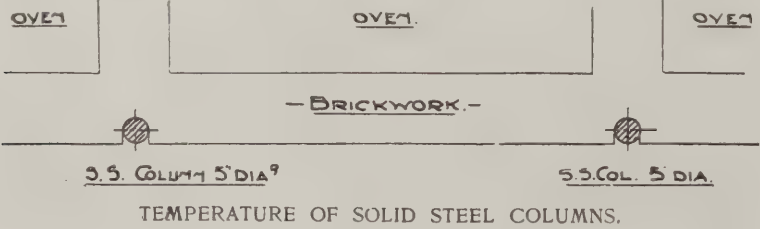
—I fear that there is no doubt that this is a case of "caveat emptor," and that, having purchased this land with all its rights and burdens, the new owner must make up his mind to face the extra expense of covering the sewer in accordance with the local by-laws. The local Sanitary Authority, in the absence of evidence to the contrary, have doubtless acquired an easement for their sewer and have a right to maintain it in its present position.

F. S. I.

Temperature and Solid Steel Columns.

X. (Norwich) writes: "We have fixed in a bakery some 5-in. diameter solid steel columns, 10 ft. 3 in. long, carrying a load of about fifty tons. Some of them are exposed to the heat of the ovens, as shown by the accompanying illustration. Kindly state what temperature these will safely stand without risk to their stability."

—The tests which have been made appear to show that no deleterious consequences to the strength of steelwork arise until a temperature of about 500 degrees Fahrenheit is passed. At that temperature the strength remains at 98.5 per cent.



of its full tenacity. At 1,000 degrees Fahrenheit it has fallen to 31.00 per cent., and when fully loaded serious injury results. The melting point of steel is about 2,800 degrees Fahrenheit. In the circumstances quoted the amount of expansion and contraction caused by change of temperature below 500 degrees will probably not prove worthy of serious consideration, amounting to about .000007 of the total length for each degree difference. The columns would be better circumstanced if an air space existed all round them, rather than that their lower parts should be partly embedded in the brickwork of ovens as shown.

G.

A LADY JANE GREY MEMORIAL.

At the parish church of Newtown Linford, Leicestershire, the Bishop of Peterborough has dedicated a Lady Jane Grey memorial window, representing the Adoration of the Saints. Our Lord is in majesty in the centre, with angels standing round, while at the top are a crowd of souls risen from the dead. Beneath is an inscription: "To the glory of God and in memory of Lady Jane Grey, born 1537, beheaded 1554. Erected by Henrietta Venezia Grey. 'The pure in heart shall see God.'"

The panelling in the chancel in memory of Lady Jane Grey is of oak, and the painted carvings include panels in which are carved Lady Jane's last prayer, and an extract from the 51st Psalm, which she read while waiting for execution. On the north and south ends of the east wall are panels carved "In memorium, Jane, the Quene," the spelling being copied from her signature to a document which is now in the British Museum. North and south of the re-table are two panels of crowned "J.G.," the golden crown being jewelled silver and blue, the metal and tincture of the Grey arms, below a Lancaster rose, the claim to the throne put forward on her behalf being based on her descent from both houses. Spring blossoms are largely used in the remaining panels as symbolical of a young girl's life. In the re-table May blossom alternates with the rose and the vine, and round the shelf edge is carved golden corn.

The screen to the tower arch is of English oak and replaces a brick wall of the same height dividing the tower from the nave. The capping timber is the beam which formerly existed on the top of this wall at the level of the ringing chamber floor, now removed. At the head of each opening are curtain pieces of tracery, with panels of vine in the two side openings and rose in the centre opening. Linen panels fill the bottom of the two side openings, one capped with a piece of oak framing, dated 1533, found built in the wall over the door to the tower; on the other is carved the date of the erection, 1915. The organ has been taken down and entirely reconstructed, a new oak frame of a suitable character being fixed. The whole of the work, which includes a new vestry, organ chamber, and heating basement, has been carried out under the supervision of the architects, Messrs. Everard, Son and Pick, of Leicester.

THE TREND OF BRIDGE DESIGN.

The new bridge which is shortly to be erected over the Ohio River at Scioto on the Chesapeake and Ohio Northern Railway, is of very great interest, and a writer in "Engineering," not merely on account of its magnitude, but also as showing the present trend of bridge design in America. For many years the continuous girder was anathema to the American bridge engineer. It was idle to point out that bridges of this type had given satisfactory service in many places, particularly in France. To the older generation of American bridge engineers, however, whose theoretical notions were often derived from Teutonic sources, this consideration had little significance in comparison with what was considered the drawback, that the structure was statically indeterminate. Nevertheless, statically determinate arches constructed by the Romans are still standing after nearly a score of centuries. No doubt this mental attitude was not wholly without its advantages, and American bridge engineers, devoting their attention nearly exclusively to structures of a kind for which calculations were easy, were able to experiment on a great variety of different forms of truss, and determine thoroughly their relative merits. In so doing they may be said to have practically exhausted the possibilities of edifices of this class, and they succeeded in diminishing very materially the weight of metal at a time deemed necessary in railway bridge work.

Unfortunately, however, structures to compute are not always the easiest to maintain, and so far back as the eighteenth century some American bridge engineers were for this reason adopting plate-girders for spans, which even in this country would have been freed by trusses. This tendency to use more and more highly the advantages of rigidity received additional impetus from the Quebec Bridge disaster. Indeed, it was at one time intended that the Quebec Bridge should be a riveted structure throughout, although the ease of erection characteristic of the pin-connected truss had special attractions, in view of the fact that work in the open is impossible during a large fraction of the year. The new Ohio River Bridge is, no doubt, a product of the same tendency. It is to consist of two main spans, each 775 ft. long, and continuous over the central pier, where the depth of the truss is 129 ft. 2 in. The trusses are, moreover, to be riveted throughout. It is stated that by the adoption of the continuous-girder principle the total weight of 26 million pounds is at least 3 million pounds less than that of simple independent spans. The secondary stresses, due to the riveting, have been investigated, and turn out to be little more than would result from the friction of large pins required in a pin-connected structure. The material is to be ordinary open-hearth steel, having a tensile strength of between 62,000 lb. and 70,000 lb. per square inch. The heaviest chord member measures 4 ft. by 4½ ft. by 77½ ft. with a sectional area of 596 sq. in., a total weight of 228,000 lb. Of the two spans, one will be erected entirely on falsework, whilst the other, one-third of the total length will be erected on falsework and the remainder by building out on cantilever system.

A noteworthy feature of the bridge, which contrasts strongly with some of the examples of American practice in long spans, is that no expansion joints are provided for in the floor system, which is

s from end to end. It will be re-ferred that M. Rabut's measurements shown that with a continuous floor length of a bridge may be greatly in excess of what would be expected on the basis of the usual calculations. Owing to the fact M. Rabut was able, without stiffening the girders, to increase the span of the old Rue Legendre Bridge at Paris from 40 to 48 metres. He measured the strains in the steel work of the bridge in its original condition, and found that the effect of the unregarded stiffening effect of the continuous floor these stresses were very much less than the calculated stresses. The margin thus available made it possible to increase the span by the extent of 8 metres without exceeding the safe limit of stress on the material.

BUILDING IN LONDON.

Despite the war, writes an able contributor to the "Manchester Guardian," rebuilding of certain early nineteenth-century streets is proceeding in the City of London. Many speculative schemes are being carried out by the building strike of 1914 are completed and new schemes are in progress. A parallel instance of architectural enterprise on a great scale is to be seen in the works which were undertaken during the twenty years of the Boer wars, and apparently those who have capital in this class of industry, as well as the substantial contractors who make such contracts, are optimistic of future events.

Changes, unfortunately, are not all beneficial. The entrance to the City of London from the north end of London Bridge in the future will have lost its scale by the rebuilding on the Pearl Island office site, which was designed by

The hoary head of the Monument and the graceful cupola of St. Martin's seem to protest at the general lowering of their right to the skyline. Along King William Street one sees the rise of City palaces in which marble, and stone struggle for supremacy in the general medley. This street is growing taller in its old age.

Moorgate Street at present makes a vain attempt to preserve its scale, but plans are under consideration for a blatant gabled street which threatens to make the existing fish-sauce coloured stucco lose its relish. Many years ago, when the disturbance of the placidity of this street began, an old City architect entered Moorgate Street office one morning in the morning and informed his assistants, "The street is breaking through; they are demolishing the beautiful mouldings at this

new "Moorgate Hall" in Finsbury is nearing completion. This building will approach the old work in scale. The façade, 220 ft. long, is of a degree, and forms a contrast to the modern domed and gabled fronts in the district.

In Regent Street the spoilers have attracted their attention to the Haymarket, and this week demolishing a corner of the Place. Very soon the admirers of the street will be forced into Suffolk Street to protest meeting amidst the last of the original buildings erected by the use of stucco. Changes in the principal streets are inevitable in the history of the capital, but at a time when the nation is reorganising its outlook for definite control, such as the Commission of Taste exercised a century ago, it should be granted now to stay indiscreet design.

LONDON ASSOCIATION OF MASTER DECORATORS.

At a meeting of the council of this association, held at the secretary's offices, 14, Queen Victoria Street, E.C., it was resolved that Mr. Mawer Cowtan-Cowtan be nominated and recommended for election at the forthcoming annual general meeting.

The question of altering the date of the annual general meeting was discussed, and it was resolved that same be postponed till October. The question of holding the annual dinner was also considered, and having regard to the fact that the annual dinner was not held last year it was thought desirable that a re-union should take place this autumn, and it was resolved that a dinner be arranged to be held on the same evening as the annual general meeting.

A complaint made by the Operative Society that men on various jobs were allowed, and in some cases encouraged, to work overtime without additional rates was further referred to, and the secretary was instructed to communicate with the firms whose names had been mentioned by the Operatives' Society.

The President reported a visit by members of the association to the L.C.C. School of Building, Brixton, arranged by Mr. Richards, the principal of that school.

LIEUT. J. L. TANN.

Mr. J. L. Tann, B.Sc., secretary to Messrs. John Tann, Ltd., safe and strong-room engineers, 117, Newgate Street, is the son of Mr. Edward Tann, managing director of the firm. Mr. Tann (of whom we have much pleasure in reproducing the accompanying portrait), who obtained his London University science degree with first-class honours, is also a distinguished athlete, and has won the amateur sculling



LIEUT. JOHN L. TANN, B.Sc.

championship of England. Immediately after the outbreak of the war he joined H.M. Forces and was appointed first lieutenant. After a course of study at Woolwich, he was made Inspector of Ordnance Machinery. He is now with the Expeditionary Force in France, controlling a travelling workshop attached to one of the army corps.

TWO NEW BOOKLETS.

A Short Guide to Manchester Cathedral.

Thomas de la Warre, who in 1373 became Rector of Manchester, and upon whom in 1399 devolved the barony of Manchester, obtained in 1421 a licence to form a collegiate church, and thus gave a beginning to the coherent history of Manchester Cathedral, as it became in 1847, when the bishopric was founded. In 1421 the church that was then "collegiated" comprised an Early English nave and aisles, with a Curvilinear decorated chancel, Lady-chapel, and western tower. This building had apparently succeeded one dating from Saxon times. A new choir was built by Master Huntington, who became head of the college in 1422, and Langley, who succeeded him in 1465, built a new nave, while Stanley, twenty years later, put in the present choir stalls, built the chantry chapels and the octagonal chapter-house, and remodelled the clerestory. His nave and choir remain pretty much as he left them, and his pillars and arches in the nave were very faithfully rehabilitated in the extensive restoration of 1882 by the late Mr. J. S. Crowther. Langley's work is elaborately beautiful, and much else that is of beauty as well as of antiquity is described in an admirable booklet ("A Short Guide-Book to Manchester Cathedral," price three-pence; Manchester, Sherratt and Hughes), which has been prepared with unusual care.

The War and the Building Trade.

A pamphlet entitled "Recapture and Expansion of British Trade: The Building Trade," has been prepared by the International Correspondence Schools, Ltd., International Buildings, Kingsway, W.C., with the object of providing students of the schools with information on some of the vital factors underlying the maintenance of British trade supremacy. It is anticipated that there will be a great revival of trade, and that one of the earliest consequences must be a boom in the building trades. Not only will there be a vast demand for factories and workshops in our own country, but the work of rebuilding the destroyed and damaged portions of France, Belgium, and Poland will involve the supply of huge amounts of building materials of all kinds. "In fact, the business to be recaptured, or to be simply held against future German competition, is threefold—the securing of home building contracts and the employment of native personnel; the securing of foreign contracts; and the capture of orders for materials, both home and foreign, that have been hitherto secured by Germany."

A very useful summary of the essential factors of the situation is given in the pamphlet, and the running commentary upon them is always wise and suggestive. It is insisted that, to ensure success in the fierce commercial and industrial conflict that is upon us, we require more complete knowledge, better means and methods of general and technical education, improved organisation, and a deeper sense of individual responsibility, as well as a larger corporate or co-operative sentiment. The pamphlet is, in fact, a powerful plea for the intensified efficiency and economy which are the ultimate basis of power, and is a valuable contribution to a subject which is therefore of vital national importance. Copies of this pamphlet will be sent without charge to readers who apply for it at the address given above.

"AN ELECTRICAL GARDEN CITY."

"An electrical garden city" is the description that has been applied to the collection of neat and compact villas erected on an estate called "Hazelwood," at Dumbreck, which is a short car journey from the centre of the City of Glasgow. According to Mr. Lackie, chief electrical engineer of the city, these are the first houses in which domestic requirements are entirely dependent on electric power. These villas, of which illustrations are here given, have been erected by Messrs. Geo. Hamilton and Co., of Glasgow, and are built in several sizes—of four, five, and six apartments. They have rough-cast fronts and are roofed with red asbestos tiling.

The fires in the principal rooms of these model houses, particularly in the drawing-rooms, were supplied by the Carron Company, Carron, Stirlingshire, and comprise several of that company's newest types, of which they have numerous registered designs. These fires give a rich red glow of heat, as near the natural fire as one could wish. The standardised elements with which they are fitted are easily interchangeable. Guard tumbler switches and earthing terminals are also provided. This type of fire is most reliable in action, portable and inexpensive in first cost and maintenance, and, being artistic in design, considerably adds to the decorative effect of the room. The cookers, which are by the same firm, embrace their No. 304 and 305 types. The ovens in these cookers are double-cased, and packed with heat-retaining material, exteriors being of moss-green porcelain enamelled steel sheets. The interiors are of mottled white and grey porcelain, enamel lined, the raised parts, including hob—which is fitted with boiling plates and grill complete—are ground and polished, and all heating elements are standardised and removable. Indicating switches, fuses, and pilot lamps are supplied to each cooker, the pilot lamps indicating at a glance whether the current is on or off, thus avoiding waste of electric energy.

Hot-water heaters are placed in the bathrooms immediately over the taps, and, being near the delivery, obviate the loss of heat that would occur with long pipes.

As some indication of the economy and efficiency of electric cooking, it might be mentioned that a breakfast can be prepared and served in the time usually required to make up a coal fire, and according to tests taken by Mr. Hamilton during the month of June, the cost for cooking,

lighting, and heating for six persons worked out at the very moderate rate of 8d. per person per week.

MR. ERNEST NEWTON ON BUILDING AND ECONOMY.

The following letter, to which reference is made in our Editorial columns, appeared in "The Times" of Thursday last, August 19:—

SIR,—Will you allow me to draw attention to the recommendations of the Parliamentary War Savings Committee that "No one should build a house for himself at this time" and that "Decorations and enlargements should be cut down as much as possible"? At the first glance this advice will seem admirable, especially to those in no way connected with building work; but I venture to think that, if carried too far, it may have disastrous and perhaps unforeseen effects. Economy is impressed on all classes of the community in order that they may by their savings help to pay for the war. A strong point in our financial position is that even during war time our industries are kept going so far as possible and thus every one is able, more or less, to pay his way.

To stop all but absolutely necessary building would no doubt keep money in the pockets of those able perhaps to afford a modest and prudent expenditure in house building, decorating, and furnishing, but it would entirely deprive of all means of livelihood a very large number of people beyond military age and with no aptitude for munition making or other definite war work, even if it could be found for them. These men must inevitably become a burden on the community and, consequently, what is saved in one direction is lost in another. Almost every one connected, directly or indirectly, with building work already finds his income greatly reduced, indeed in some cases the vanishing point is almost in sight, and if work of this nature ceases entirely complete ruin is inevitable. It may be that this suggested further restriction of expenditure is absolutely necessary, and, if so, there is no doubt that the position will be faced with fortitude and resignation. All I ask is that before the suggestion, which will really have the force of a command, is made officially we may have an assurance that the Committee have had the benefit of the experience of those conversant with the matter in all

its complicated ramifications, and that the whole matter has been most carefully considered.—Yours faithfully,

ERNEST NEWTON

President, Royal Institute of British Architects, 9, Conduit Street, Hanover Square, W. August 18.

COMPETITION.

Town-Planning Scheme, York.

The Town-Planning Committee of Corporation invite competitive schemes under the Housing and Town Planning Act, 1909, in connection with certain within and without the City of York. Prizes of £100, £50, and £25 are awarded by competent assessors. Schemes are to be sent in by November 30, Conditions (£2 2s., returnable) from Mr. Spurr, City Engineer, Guildhall, York.

OBITUARY.

Mr. W. H. Spottiswoode.

We deeply regret to announce that William Hugh Spottiswoode, director and manager of Messrs. Eyre and Spottiswoode, the well-known printers and publishers, died suddenly of heart failure on Friday night at Llandrindod Wells, age of fifty-one. He was the eldest son of the late William Spottiswoode, president of the Royal Society, and was educated at Eton and at Balliol College, Oxford, in connection with the house of Eyre and Spottiswoode dating from 1885. He was chairman of the board of the "Spottiswoode and the Tatler," as well as of the "Publications, Ltd. ("Printer's Pie"), "Winter's Pie"), and was interested in Technical Journals, Ltd., the proprietor of this Journal. He held the position of director in the firm of Messrs. John B. Wood and Sons, Ltd., and was also a member of the Royal Academy of Music. Some time Mr. Spottiswoode was manager of the Royal Institution of Great Britain, and a member of the Commemorative and Anniversary Committee of the Literary Fund. In 1903 he was president of the Anniversary Festival of the Printers' Pension Corporation. In 1904 Mr. Spottiswoode presented the Royal Institution with his father's collection of physical apparatus, giving at a later date his father's mathematical manuscripts, etc., to the London Mathematical Society.



AN AVENUE AND A TYPICAL VILLA. "HAZELWOOD" ESTATE. DUMBRECK, NEAR GLASGOW.

ELECTRICAL NOTES.

A Thermal Storage Cooker.

solution of the electric cooking problem from the American point of view is discussed by a writer in the American contemporary, taking into account the view of electric cooking in that country has been retarded by the high cost of apparatus, high cost of operation due to inefficient application of heat, to heavy demands for apparatus and to high peak load overlapping normal station peak, and high cost of hot water supply. The writer believes he has found a solution of the problem for certain local conditions in the use of a thermal storage cooker which he describes. The apparatus has an internal heating chamber containing a series of radiators surrounded by a heating element which keeps them at practically a constant temperature. This chamber is kept in constant service except under special circumstances which will be referred to. Above the heating chamber there is a cooling chamber with a hinged steam-tight lid, and there is an intervening cover between the two chambers. Both chambers are heat-insulated and water-tight. The water can be drawn off or filled into the jacket, and an immersion type-heater for hand or automatic use can be provided. The heat insulation is designed so that the temperature drop with the normal heat flow outwards to the water, plus the fairly constant water temperature, is equal to the temperature desired in the heating chamber. The cooking chamber is also insulated from the water reservoir, and this insulation, as well as the metal lining of the chamber, is maintained at a high temperature by the surrounding hot water and heat leaking through the cover of the heating chamber. Boiling, frying, etc., cannot be performed in the cooker, but by the use of a special radiant grill of 700 watts, the demand of which is the maximum demand of the entire apparatus for general cooking. For many operations the cooling chamber may be used without radiators and without pre-heating the food, which is roughly cooked in the apparatus over night, the energy being transferred through the cover over the heating chamber. For operations a single radiator is transferred to the bottom cooling chamber. For roasting and baking, a radiator is placed both above and below the food.

A convenient attachment is a radiant grid covered by a glass door and air baffle, which is inserted into the cooker at a height over the food to be cooked, and it is claimed that remarkable results can be achieved by its use. This device uses 400 watts. The writer considers that superior and better results are obtained with the apparatus than with the ordinary cooker. The radiators are always ready for use, and the cooking chamber is maintained at a constant temperature. It has been found that an input of 200 watts will heat ten gallons daily and furnish five gallons of water daily at a temperature sufficiently high for all domestic purposes. This series of radiators is sufficient for cooking for a family of five to ten people. If additional hot water is required, the immersion heater inside the water jacket may be employed, but it should be remembered that the energy used for this purpose is utilised at nearly 100 per cent. efficiency, since all losses are already accounted for in the 200 watts normal input. If a constant daily demand exists for more water than is normally required, this should be obtained by a constant input, providing a normal unity load-factor load. At 100 per cent. efficiency, approximately ten gallons of water may be heated in twenty-four hours from 20 deg. C. to 75 deg. C. with an input of 100

is possible under these conditions to meet all domestic demands for hot water. The cooker has been thoroughly tested under working conditions, and the writer, taking a recent test upon an ordinary electric range, makes a comparison of the working of his type of cooker. With the ordinary type range 3,901 watt-hours were required for a "standard" breakfast, but only one gallon of water was provided, as compared with two in the cooker under description. The writer also makes a comparison in regard to a "standard" daily menu of breakfast, dinner, and supper. The maximum possible demand on the range was 3,600 watts, and of the cooker 700 watts. The range also provided five gallons of hot water, whilst the cooker provided none to spare. This additional hot water would cost 6.7 cents if obtained by the method of the range at 10 cents per k.w.-hour.

The writer concludes by pointing out that some companies are entering for special engineering business, giving an income of 1 cent per k.w.-hour, and if the power companies are required to sell 100 per cent. load factor energy at the same price for the cooker described, there should be a new era for electric cooking. The complete cooker costs less than the gas, transformers, and services required for an ordinary gas or electric range.



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TRADE AND CRAFT.

"Fiberlic" Building Board.

For rapid, efficient, and economic lining and partitioning, artificial boards possess many advantages as compared with natural wood, or lath-and-plaster, and this fact has been fully recognised in putting up the innumerable temporary buildings required for various war services. Among the artificial boards for which this special demand has been very extensive is "Fiberlic," which is made not from soft materials, but from a strong, tough fibrous root which, after being chemically treated and rendered fire-resisting, is subjected to high hydraulic pressure, compressing the fibres into a rigid board which, besides being unbreakable, is non-warping, damp-resisting, and vermin-proof. Because of its extreme strength and durability, its proprietors, Messrs. MacAndrews and Forbes, Ltd., Finsbury Court, Finsbury Pavement, E.C., prefer to call "Fiberlic" a building board rather than a wall board. Once erected, the board will last during the life of the building. "Fiberlic," which can be erected by any handy man with a saw, nails, and hammer, has been used extensively in America for lining the walls of hospitals and sanatoria, and the rapidity with which it is making its way in this country has been signalled by the appointment of Mr. D. A. Felton as its sales manager. Mr. Felton was widely known in his former capacity as sales and advertising manager to the proprietors of "Pudlo, the powder that makes cement waterproof," with whom he had been from the commencement. He will be glad to reply personally to any inquiry with respect to "Fiberlic," which, it need hardly be pointed out, offers an immense advantage over lath-and-plaster by entirely obviating the possibility of cracked walls and falling ceilings; while, with the use of the building board, there is no necessity to wait for the surface to "dry-out" before decorating, which can be done as soon as the board is in position.

"Pyrene" Hand Fire Extinguishers.

Although architects give thought and attention to practically every detail in the design and equipment of all classes of buildings, it is doubtful whether there is a general recognition that the installation of hand-appliances for protection against fire should receive the same personal attention. This is specially the case in regard to private residences, comparatively few of which are adequately equipped for dealing promptly and effectively with fire in its incipient stages.

It must be remembered that risks of fire in the private residence have been greatly increased by the daily use of highly inflammable substances, such as methylated spirit, varnish, benzene petrol, paraffin, and alcohol. Then there is the growing profusion of light hanging draperies and curtains, which add considerably to the risk of fire; and modern lighting methods constitute a further element of danger.

It will readily be admitted that the causes of fire are exceedingly trivial and common and may easily occur in spite of the exercise of the greatest care. All this indicates very clearly that those responsible for the planning and equipment of private houses, as well as of public buildings and business premises, are weighted with a continuously increasing burden of responsibility with respect to the protection of life and property against fire.

Very interesting demonstrations of the Pyrene fire extinguisher were held recently

at the island site, Aldwych, to demonstrate the efficiency of this implement in various classes of fire. The tests included fires in some of the most inflammable substances known, as exemplified in the following few specimens: (1) One pound of calcium carbide and two quarts of water mixed together in bucket (which combination generates acetylene gas), two quarts of petrol also poured on. This was ignited and was put out in about six seconds. (2) Two hundred feet of loose celluloid films were then added to a similar mixture, considerably increasing the combustible nature of the test, and this was extinguished in about ten seconds. (3) One of the fires consisted of a bushel of wood wool, ten pounds of cotton waste and rags saturated with petrol, paraffin, tar, and turpentine, and allowed to burn for ten seconds so that the fire got well hold of the various substances, and this was successfully extinguished within a few seconds.

The conditions under which the extinguisher was tested, as well as the actual fires themselves, are far more severe than those likely to be met with in ordinary circumstances. It may therefore safely be said that an extinguisher that will put out fires in the manner witnessed at Aldwych will certainly cope with those caused in the ordinary course of manufacturing and domestic activities.

The Pyrene Company, 19-21, Great Queen Street, W.C., will be glad to send to architects, upon application, full information concerning this demonstrably efficient fire extinguisher. They issue a neat illustrated booklet, in which the value of their apparatus for the extinction of outbreaks of fire in the home, the factory, the garage, the motor-boat, and the motor-car are strikingly demonstrated.

HOUSING AND TOWN-PLANNING PROJECTS.

Huntingdon.

A public enquiry has been held at the Town Hall, Huntingdon, by Mr. H. A. Chapman, F.R.I.B.A., on behalf of the Local Government Board, with respect to the application of Huntingdon Town Council to borrow £10,000 for the purpose of carrying out a housing scheme.

Clydebank.

Clydebank Dean of Guild Court have granted permission to Messrs. John Brown and Co., Ltd., shipbuilders, to form a new street off Clyde Street, Glasgow, and to erect seven tenements. The houses will be of one room and kitchen and of two rooms and kitchen, with bathrooms and lavatories. They form part of a workmen's housing scheme which Messrs. Brown have undertaken, eight tenements being at present in course of construction in Clyde Street. The buildings for which the plans have been passed are estimated to cost £12,000.

Barrow.

There is in Barrow a great demand for houses, and at a recent meeting of the Town Council it was reported that 347 houses in course of construction had been nearly all rented in advance of completion. Great building activity is also observable on Walney Island, at Cavendish Park, and Salthouse, but all this, it is complained, is insufficient to meet the demand.

Kingstown, Ireland.

It has been decided that the scheme for the erection of artisans' dwellings shall be divided into two parts, and two architects have been appointed—for No. 1 scheme, Mr. J. Robinson, and for No. 2, Mr. R. Donnelly.

NEWS ITEMS.

Memorial Tablet to Admiral Cradock.

A tablet in memory of Admiral Christopher Cradock is to be set up in parish church of Hartforth, Richmond, Yorkshire, where is the family seat. W. S. Weatherley, F.R.I.B.A., designed the tablet, which is of Greek statuary marble, obtained from ancient quarries near Athens, with carved frame and setting. Upon the panel is a wreath of leaves modelled in bronze with an anchor in the centre, while the admiral's sword, also in bronze, rests upon the sill. The admiral's flags, which are at half-mast, are placed on either side of the tablet, the poles being held up by bronze clips and topped of each surmounted by a crown. Two wings to the tablet are in Roman Antico marble, and each bears a record of gold lettering of the admiral's career. The sculptors are Messrs. John Underswood & Son, of London.

Classes in Architecture and Building Construction.

Attention is directed to the undermentioned classes held at the London County Council Camberwell School of Arts and Crafts, which will reopen on September 1, 1915: Architectural design, Monday, 7-9.30 p.m.; teacher, Mr. T. Benslyn, A.R.I.B.A., A.R.C.S. (Arch.). Architectural drawing, Tuesday, 7-9.30 p.m.; teachers, Mr. F. Llewellyn and Mr. W. S. Owen, M.A.R.I.B.A. Architectural history, Friday, 7.30-9.30 p.m.; teacher, Mr. E. A. Youatt, A.R.I.B.A. Building construction, Tuesday, 7-9.30 p.m.; teachers, Mr. F. Webster, A.R.I.B.A., P.A.S.I., and Mr. A. Llewellyn. A class for the study of history of decoration is conducted on Tuesday evenings by Mr. H. Davis Richards, R.B.A. Further particulars may be obtained on application to the Secretary of the school.

Portable Buildings for Belgium.

The New York correspondent of the "Daily News and Leader" sends the following communication, dated August 15: "If British plans are carried out, refugees in Belgium and Northern France will be housed in buildings made in this country. Negotiations are now going on for the purchase of 20,000 movable dwelling houses, churches, schools, shops, and it is expected that manufacturing firms here will receive the order to begin shipment during the autumn."

"It is stated that England, France, and Belgium are acting together. The contract will aggregate millions of dollars, and, if secured, will be one of the largest war orders placed in this country. Entire towns are to be created from the portable houses, and they are to be moved where they are needed. It is understood that the people will be temporarily sheltered in this way, enabling them to carry on their business until their ruined towns and villages can be reconstructed."

"This country," and "here," mean, of course, the United States of America, and it is perhaps assumed that in Great Britain we are, for the moment, too busy making military huts and the munitions war to be in a satisfactory position to meet the immediate needs of Belgium and Northern France. Whether or not this view is justified, it is certainly remarkable that portable buildings should be fetched from so great a distance, but it is not to be supposed that America will be called upon to supply more than a fraction of the entire order.]

THE ARCHITECTS' & BUILDERS' JOURNAL.

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No. 150.



ANTIQUE MARBLE CINERARY URN.

(From Piranesi.)

THE ARCHITECTS' & BUILDERS' JOURNAL.

SEPTEMBER 1, 1915.

TOTHILL STREET, WESTMINSTER.

VOLUME 42. No. 1078.

EDITORIAL.

AN announcement that the additions to the hall of the Butchers' Company in Bartholomew Close are now nearly complete must have revealed to many for the first time that there was a Butchers' Company and that it had a Hall. What are called the twelve great City Companies are fairly familiar by repute to the well-informed citizen, who, however, if he wanted to find any of them would have to make enquiries, because, noble buildings though some of them are, they are nearly all built in by-ways. Only the Fishmongers' Hall, at the north-west approach to London Bridge, occupies a really fine site. In hazarding a guess as to who built a company hall, it is almost as safe to say "Jarman," as, in the case of a City church, it would be to say "Wren," and for much the same reason; Jarman, as City Surveyor, being called upon to make good, in his own particular sphere (as Wren was in his), some of the ravages of the Great Fire. In this instance, however, the attribution would be wrong. Three halls have been built on the present site, and the second of them was designed by Jarman, but the existing hall is the work of Roberts, and was built in 1830-3. Its Grecian-Ionic hexastyle face to the river, poor though it is as an exemplar in that kind, is (if we leave out of the account Southwark Cathedral, on the other side of the water) the one and only architectural feature between London Bridge and Blackfriars—a perpetual reminder that grace and dignity are not dead, in spite of the foul and ugly wharves and warehouses in alignment with it, or making hideous the opposite bank.

Jarman designed also the hall of the most ancient of the City companies, the Mercers, whose charter was granted in 1393 by Richard II. It may be admitted that the site is more interesting than the building, which, as to its Cheapside front, is "a characteristic specimen of the enriched decoration employed after the Great Fire." On the site of the Cheapside entrance to the hall stood the house of Gilbert Becket, father of Thomas the martyr of Canterbury, who was born on this spot, and whose sister Agnes and her husband built here a memorial chapel and hospital, which were destroyed in the Great Fire. Speaking of hospitals, it flashes across the memory that Guy, the bookseller, who founded the most famous of London hospitals, was apprenticed in the porch of the Mercers' Chapel, and had his shop somewhere near it. The Mercers' silver-gilt election-cup is of early sixteenth-century work, and is decorated with fretwork and female busts.

It was Jarman again who designed, in 1667, the Hall of the Drapers' Company in Throgmorton Street, which was partly destroyed by fire in 1774,

and then partly rebuilt by the brothers Adam was refronted in 1869 by Herbert Williams. on ground that was occupied by Thomas Cromwell Earl of Essex, upon whose attainder his property here was purchased by the company. Some of the ground he had filched, if old Stow is to be believed, Cromwell's house having been built, Stow tells us, "and having some reasonable plot of ground for a garden, he [Cromwell] caused the palace gardens adjoining to the north part thereof to be suddenly to be taken down; twenty-two feet measured forth right into the north of every garden; a line there to be drawn, a trench cast, a foundation laid, and a high brick wall built. My father had a garden there, and a house standing close to his south pale; this house was loosed from the ground, and bare upon rollers my father's garden twenty-two feet, ere my father heard thereof; no warning was given him, but other answer, when he spake to the surveyor that work, but that their master, Sir Thomas, commanded them so to do. No man durst go to the matter, but each man lost his land, and my father paid his whole rent, which was 6s. 6d. a year, for that half which was left." Cromwell, however, had had the misfortune to suggest to Cleves as a wife for Henry, who, finding Holbein's portrait had grossly flattered himself, cherished a grudge against Cromwell, and had been despatched in 1540—a fate that one regrets for his act of land-piracy in destroying his neighbours' landmarks and moving his neighbours' houses without warning. Is this the first instance on record of a house being moved on rollers?

Merchant Taylors' Hall (where should it be Threadneedle Street?), the largest of the company halls, was another of Jarman's designs. Of the halls of the twelve great companies, that of the Grocers, in the Poultry, was built (1798-1800) by Thomas Leverton; Philip Hardwick, R.A., designed the fine hall of the Goldsmiths, in Foster Lane, which became fully visible to the present generation for the first time when the old General Post Office was pulled down; Skinners' Hall, Dowgate, owes its front to an architect named Jupp, who added it in 1791; the Haberdashers' Hall, Gracechurch Street, destroyed in the Great Fire, was rebuilt by Wren, and again rebuilt in 1862-4 (its name is the highly imaginative effort of a "Punch" cartoonist to depict "the ancient sport of dashing the haberdashery"); Salters' Hall, St. Swithin's Lane, its Ionic portico, was designed by Henry Carr, and opened in 1827; Ironmongers' Hall, Fenchurch Street, by Thomas Holden, whose name, with the date 1748, appears on the front; Vintners' Hall, near Southwark Bridge, was rebuilt by Wren

Great Fire; and, last of the halls of the twelve companies, that of the Clothworkers, in Mincing Lane, was rebuilt in 1860 by Mr. Angell.

Concerning the halls of the minor City companies are a few points worth noting. Apothecaries' Water Lane, is reputedly built on the site of Shakespeare and Burbage's Blackfriars Theatre. Drapers' Hall, Harp Lane, was repaired by James Wyatt, who wrote "Memoirs of Sir Christopher Wren." At the Barber-Surgeons' Hall, Monkwell Street, the theatre of anatomy, built by Inigo Jones in 1636, escaped the Great Fire, which destroyed the original hall, but was pulled down at the end of the eighteenth century. Its roof, however, was preserved. Walpole thought it one of the best of Wren's works. The design is, or was, preserved in the portfolio of Jones's drawings at Worcester College, Oxford. Carpenters' Hall, London Wall, where, every winter, valuable and interesting architectural or cognate lectures are delivered, was originally built in 1429. Court-rooms were built in 1670 and a principal staircase and entrance-hall in 1780 by W. Jupp, who provided it with heads (designed by Bacon) of Vitruvius, Palladio, Inigo Jones, and Wren. The hall was greatly damaged in 1849. The present hall was built in 1879. The company's earliest charter is dated 1477. At the Painter-Stainers' Hall, in Little Trinity Lane, Inigo Jones and Vandyck were invited to the same effect. The latest company building is that of the Linen Drapers, in Cannon Street, which is the sixth built upon the same site, the first dating from 1393. The present hall, designed by Mr. H. Fildes Clarke, F.R.I.B.A., was finished in 1910.

With the interiors of these halls the average citizen has little to do. In most instances it is exceedingly difficult to obtain entry to them, which is the more to be regretted since most of them contain objects of considerable interest—plate, statuary, paintings, stained-glass windows, historical relics, panelling, carving, ironwork, and decorative features generally—that will repay well a series of architectural visits. That the halls are so seldom put to any use beyond that of holding occasional meetings of members of the companies to which they belong betokens a lamentable waste of extremely valuable City space. Some of the halls perform valuable service in affording splendour and hospitality to distinguished statesmen and diplomats, British and foreign, and show interiors that are unworthy of such great occasions; which, however, is necessarily so rare that it is a pity that any hall should be exclusively reserved for them. Surely there are many services by which they could justify their existence to a community for whom their value and interest would then be greatly multiplied.

According to the remarks dropped casually last week with reference to the Registration law in the State of New York, and its provision for conducting examination of candidates for certificates of registration, we should like to remove a possible impression that university standing for architecture is indispensable upon Registration. Of course it does not, and it might prove a firm stepping-stone to it, or a substitute for it. To make architecture a university subject would seem to be the best possible way of raising its dignity in the estimation of the public; while the consequent attraction to it in the numbers of the university type of man might inevitably carry the process somewhat beyond the limits of mere sentiment.

For some years past, events have been shaping themselves to this end. In certain of the newer

universities, which are unhampered by inveterate traditions that are sometimes difficult to distinguish from prejudices, architecture has been taken up with vigour and enthusiasm. Liverpool and London may be cited as instances; and, of the ancient seats of learning, Cambridge has taken a strong lead in introducing architecture as a specific study. Before long, the chain will be complete, and then—or probably before then—the way will be clear for the able young architect to obtain university distinction without interference with his professional studies, or for the university man to study architecture without detriment to his university career—objects that could be obviously furthered by a reciprocal policy of exemptions, and by the appointment, for the university examinations in architecture, of "external" examiners nominated in agreement between the respective universities and the R.I.B.A. We seem, indeed, to be on the eve of an eminently desirable educational reform—of changes that seem imperatively necessary if the profession of architecture is to rank *de facto* as well as *de jure* among the liberal professions, the others of which clearly owe to the university *cachet* their more definite recognition by the public as liberal professions.

At the annual conference of the Midland Centre of the Sanitary Inspectors' Association, which was held at Lichfield last week, one of the speakers deprecated the "insistent cries that there should be a practical cessation of public health work during the war," and he contended that "for the successful prosecution of the war itself this work could not be dispensed with." Another recalled that in places where the sanitary conditions were reasonably good, infantile mortality had decreased in some cases as much as forty per cent.; and he was certainly justified in adding that in view of the enormous losses in the war everything possible should be done to preserve the child-life of the nation. It was evident from the observations of these and other speakers that these sanitary inspectors were apprehensive of a serious set-back in the public health, supposing that the demand for economy is pushed too far. Against true economy there is nothing to be said, but against the false economy that would ruin the health, business, and reputation of the country, we most strongly protest, and we are glad to notice that professional men are at length making a stand against it. Bad economy is bad patriotism.

An interesting report prepared by a special sub-committee of the Council of the National Federation of Building Trades Employers summarises opinions gathered from the various affiliated organisations as to the forms of building contract of which they have had experience. It is stated by the Northern Counties Federation that, from about thirty replies to inquiries on the subject sent to local authorities, it appears that only six "important authorities use the National (or R.I.B.A.) Form of Contract, and that, as a general rule, in all works of any magnitude, local authorities in the North use special forms prepared by their officials; whilst for minor works it is quite common to use forms purchased from stationers. Naturally, in these specially prepared or casually procured forms unsatisfactory clauses are often included. Similar experience is reported from most other parts of the kingdom, and, after digesting the information thus obtained, the sub-committee concludes that it would be good policy to draw up, in conjunction with the Institute of Builders, a model form of contract, and to get local authorities to approve the form. Public authorities, however, will not be easily persuaded to adopt a form prepared by the other party to the contract, and such an approach would come with much better grace from the R.I.B.A.

HERE AND THERE.

RIGIDLY to my proper text must I keep in these columns. Not for me is the wide area that is open to those other writers who, having to fill a daily column or a weekly page, can turn from "cabbages to kings." My themes must have some direct relation to the art and the practice of architecture, the science and the business of building, and kindred topics concerning the arts and the crafts. But there is a topic now engrossing attention which, willy-nilly, I will touch upon here, for it is of acute interest and of far greater import than anything else I could write about. This topic is Conscription. I claim a brief space to do what I can, in the limited sphere that is open to me, to counteract the evil effects of all this turmoil in the newspapers. The discussion should really be headed "Journalists or Patriots." What is the spectacle that we now see day after day? It is no other than one set of journalists advocating "conscription" with reckless energy, and another set of journalists decrying "conscription" with equal gusto; and to serve their aims they are running here and there, dragging in anyone who will add to the clamour, getting leaders of labour to say that they will have nothing to do with national service at any price, and generally disturbing the whole country. A plague on both their houses! If only the Government would step in and say: "We are not going to have any more of this. Unity is essential to our strength, but you are spreading serious dissension. And on that account we insist on the discontinuance of this acrimonious newspaper strife." Conscription is not a matter of principle; it is a matter of necessity. The wild talk about its being "un-English," about the British working man's aversion to compulsion in any form, and so on, is wholly futile. If for the defence of our country, or the success of our operations abroad—which is one and the same thing—it is imperative for us to have men in the numbers that only conscription could give, then we may be sure Lord Kitchener will tell us so, fearlessly and promptly. And every man who is worth his salt will come forward. My own view is, that we have got to trust the Government, to leave the matter in the hands of Lord Kitchener and those in authority with him, and, then, if we are called upon in the name of necessity, to answer to that call without demur. It is futile for Mr. — or Mr. — to say that he can't see the necessity for conscription and won't have it on any terms. To begin with, is he in a better position than Lord Kitchener to know what is necessary? And as for "any terms," there is the record of Belgium staring us in the face. Doubtless there were plenty of men in Belgium who would not have conscription on "any terms," but that did not prevent the Germans killing them wholesale and destroying their houses and their country. I agree heartily with Lord Hugh Cecil's view of the matter. "About the relevant circumstances of the case," he says, "we are all, except the Government, wholly ignorant. We do not know how many men have joined the Army; we do not know how many men the Government wish to join the Army; we do not know how many men it is possible to equip, nor at what rate progress in the furnishing of equipment is being made; and again we do not know how many men are wanted for work for munitions of war and how many ought to be left for agriculture and the different wealth-producing industries that are necessary for our financial strength. We know, in fact, hardly anything which an intelligent man would take into consideration in deciding a question which, nevertheless, numerous correspondents and writers of leading articles insist on discussing." That is the position in a nutshell. How glad I should be then to see the Government putting forth a strong hand, and silencing the present discussion. Doubtless there would be a wail about interfering with "the liberty of the Press," but the fact is,

the Press have got too much liberty in this matter of national service, and they are abusing it, to the serious concern of all decent citizens.

Hidden away in the August issue of "The Architectural Record" of New York, just to hand, there is a breezy article on the first architectural society in America, and as few of my readers are likely to see it, I will treat the article as a gift from the Gods, and make use of it here at a moment when subject-matter is hard to find. But let me first admit quite frankly it is not *moi qui parle*, but Mr. Rawson W. Hackett. Perhaps an architectural society filled a "long want" in New York in the year 1803. It is perfectly easy to imagine that the architects of that time, working out the problems involved in the designing of those cheerful little red brick houses that were so popular in old New York, would have looked for to an occasional hour or two spent in company with other men well acquainted with the difficulties of life devoted to "the arts of architecture and surveying," or architecture and some other remunerative "branch." The new society, as already indicated, came into being in 1803, and its members bore the charming title of Brethren of the Workshop of Vitruvius, at its first appearance of the Brethren in the public press was on August 19, 1803, when the following notice appeared in the "New York Evening Post":—

Noble Architects.

The Brethren of the Workshop of Vitruvius were informed that in consequence of the prevailing epidemic, the Order is adjourned until called together by the M. R. O.

James Newton, F.A.M.R.

In November of the same year all danger from the epidemic having passed, the Brethren promptly reopened their shops, and on November 9, 1803, under another heading of "Noble Architects," the Brethren of the Workshop of Vitruvius were informed "that the meeting of the Order will be held on Friday next at six o'clock, at the usual place. By order M. R. O. James Newton, F."

Just who these Brethren were, what their number, aims, or ideals, is not possible to guess after a lapse of a hundred and twelve years. One thing, though, is certain, there must have been very few, perhaps not more than a dozen of them, unless amateurs were admitted as members or associates, for, in spite of all the buildings that one saw going on during the first years of the nineteenth century, whether in New York or elsewhere, architecture was by no means a lucrative profession, and the few architects there were usually found more convenient to carry on some better paying industrial or æsthetic pursuit—such as painting or surveying—in which they could fall back at odd or slack times. So the architects did not think it wrong to get new work by a certain amount of judicious advertising. A certain "D.D." advertised his architectural ability in the New York papers during 1806. Here is one of his advertisements:—

To Merchants and Others of New York.

If any person wishes to have any Dwelling or Shop House built by contract in this city, please direct address to D.D., No. 169, Broadway, New York, where all applications will be received, and satisfactory information will be given—also, Plans and Elevations will be drawn suitable to the applicant. One quarter of contract money will be taken in Dry Goods or Groceries! Satisfactory security will be given for performance.

One important circumstance in connection with the unprofitable state of architecture that prevailed in America in the early nineteenth century was the buying and selling of second-hand plans and details. In January 19, 1804, "A gentleman whose intention



Photo: Thomas Lewis, Ltd.

MODERN DOMESTIC ARCHITECTURE (SERIES II.). XXII.—"FEATHERCOMBE," HAMBLETON, SURREY.

ERNEST NEWTON, A.R.A., P.R.I.B.A., ARCHITECT.

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Photo: Thomas Lewis, Ltd.

MODERN DOMESTIC ARCHITECTURE (SERIES II.). XXIII.—"FEATHERCOMBE," HAMBLETON, SURREY.

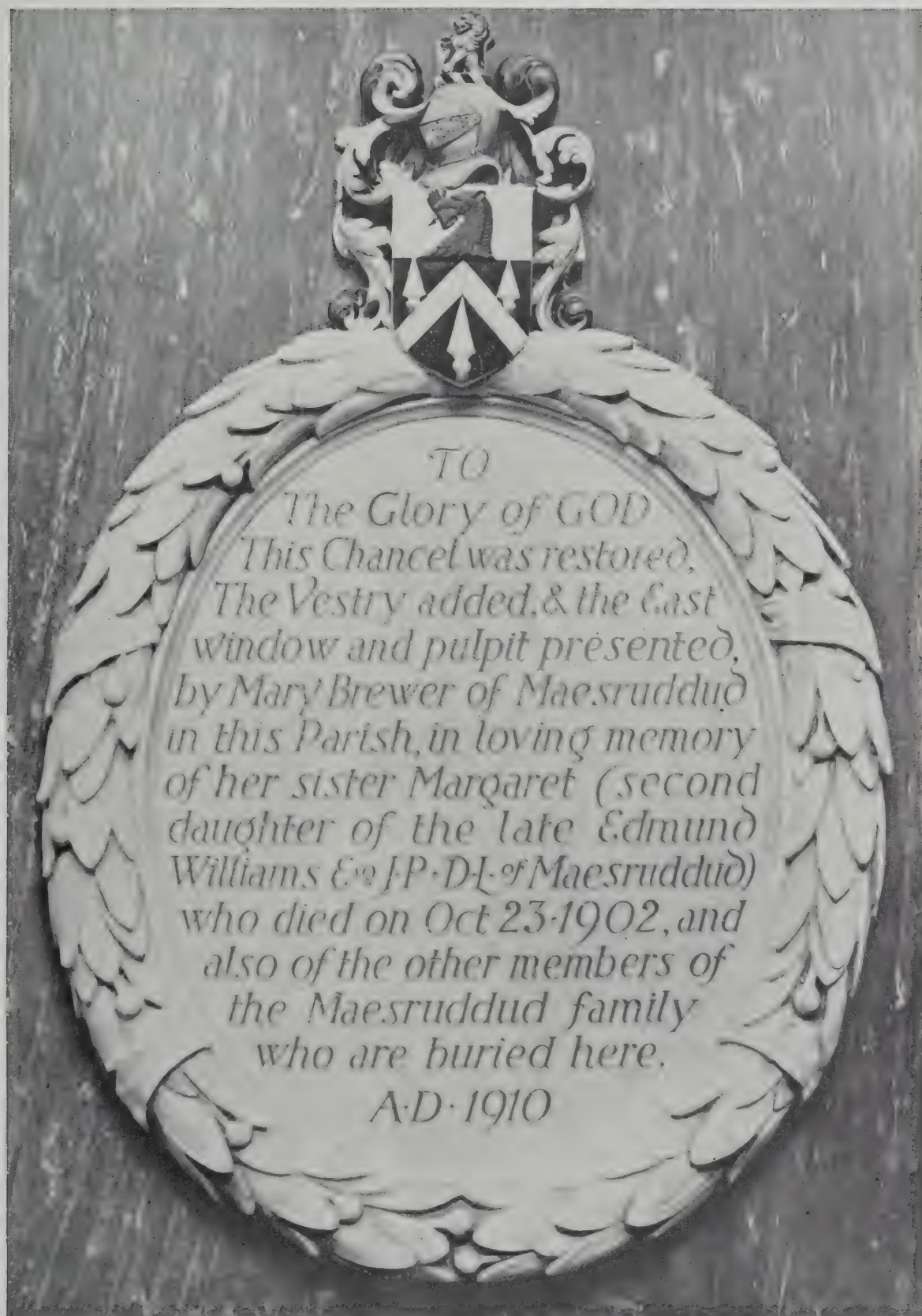
ERNEST NEWTON, A.R.A., P.R.I.B.A., ARCHITECT.

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DETAILS OF CRAFTSMANSHIP. XXXIII. — PLASTER OVERMANTEL FROM NO. 25, PARLIAMENT STREET, WESTMINSTER, NOW IN THE VICTORIA AND ALBERT MUSEUM, SOUTH KENSINGTON.

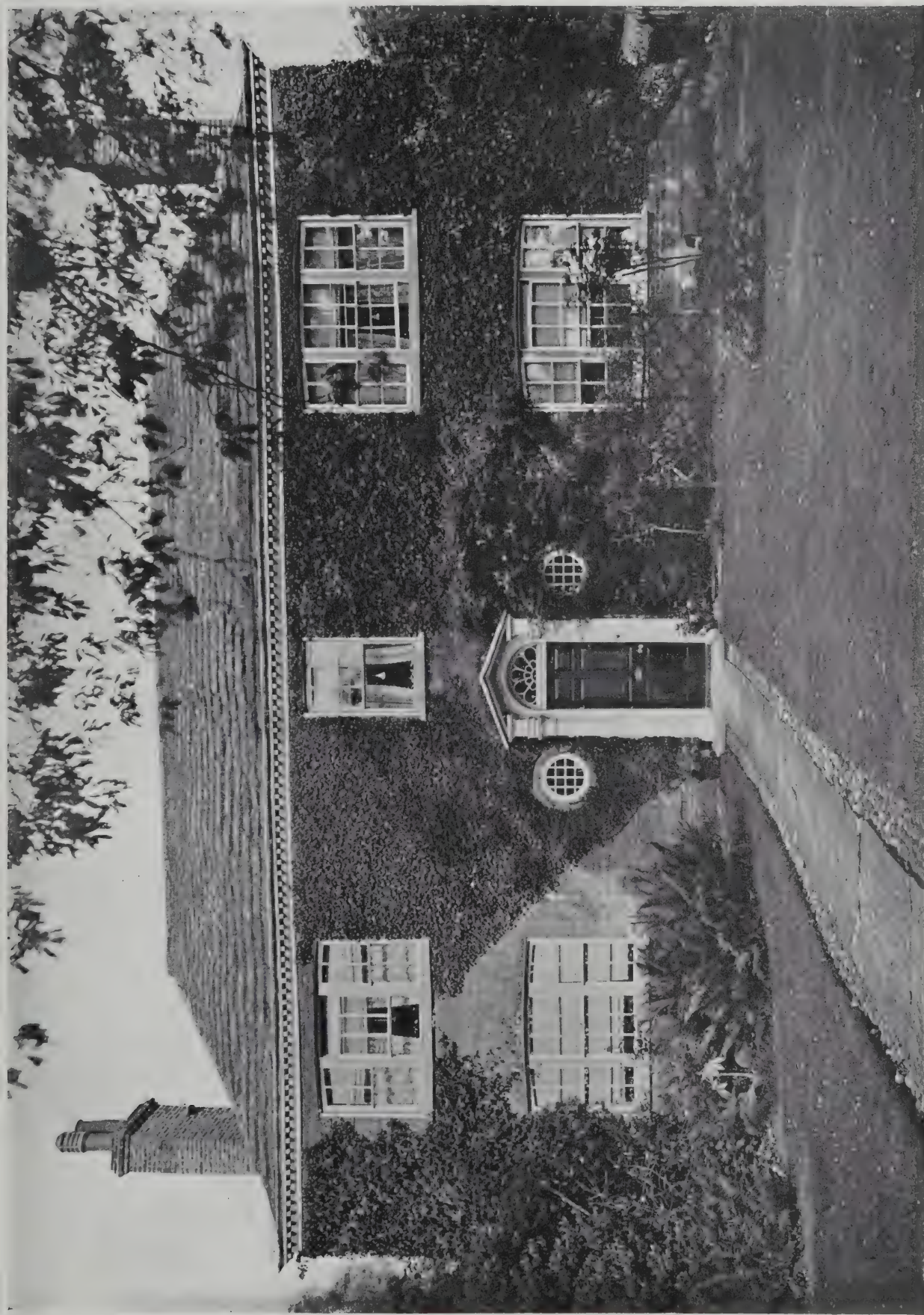
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CHICAGO



TABLETS AND INSCRIPTIONS. XI.—TABLET IN BEDWELTY CHURCH, MON.

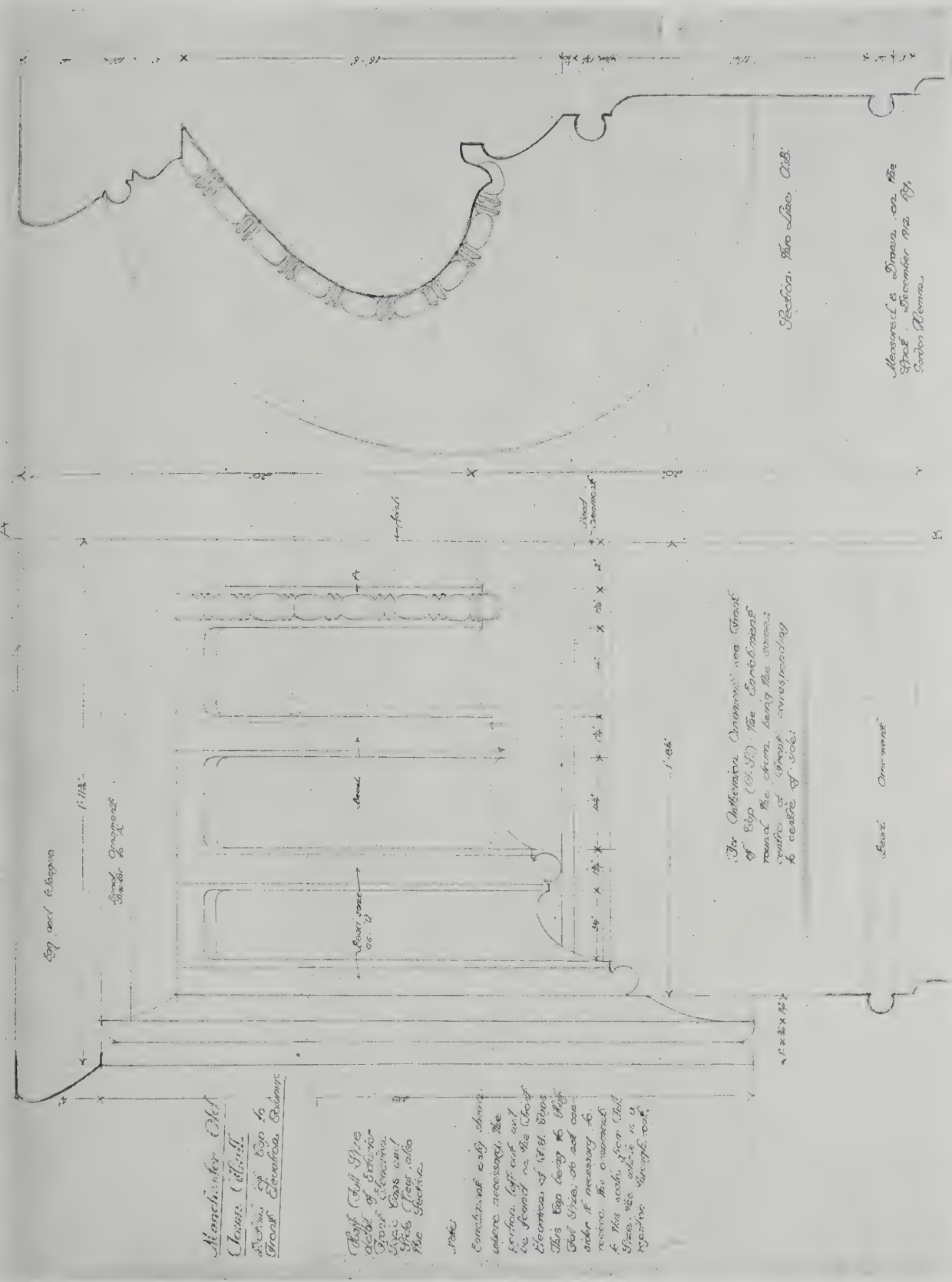
EDWARD WARREN, F.S.A., F.R.I.B.A., ARCHITECT.

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SMALL HOUSES OF THE LATE GEORGIAN PERIOD. L.—WANTLEY MANOR, HENFIELD, SUSSEX.

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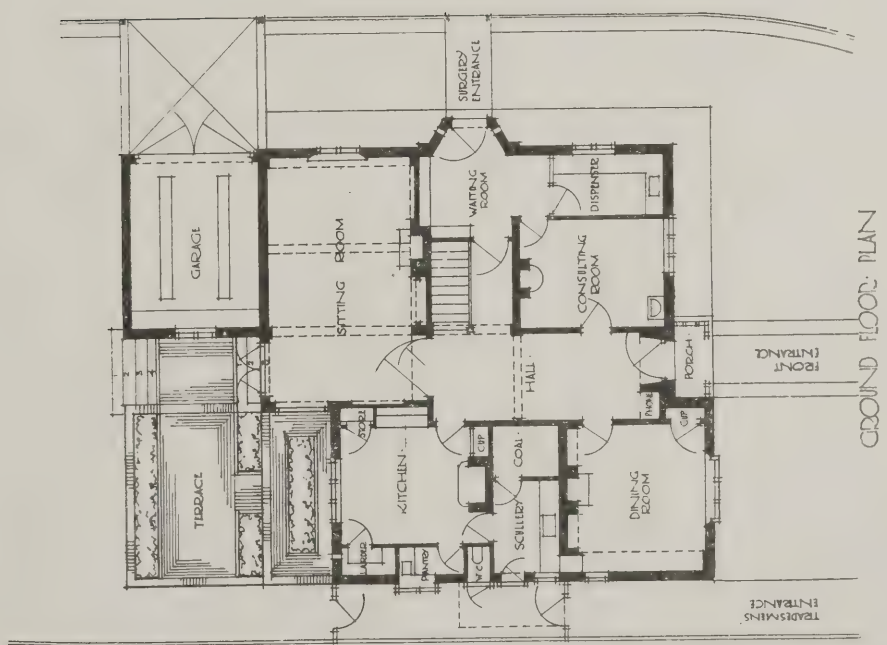
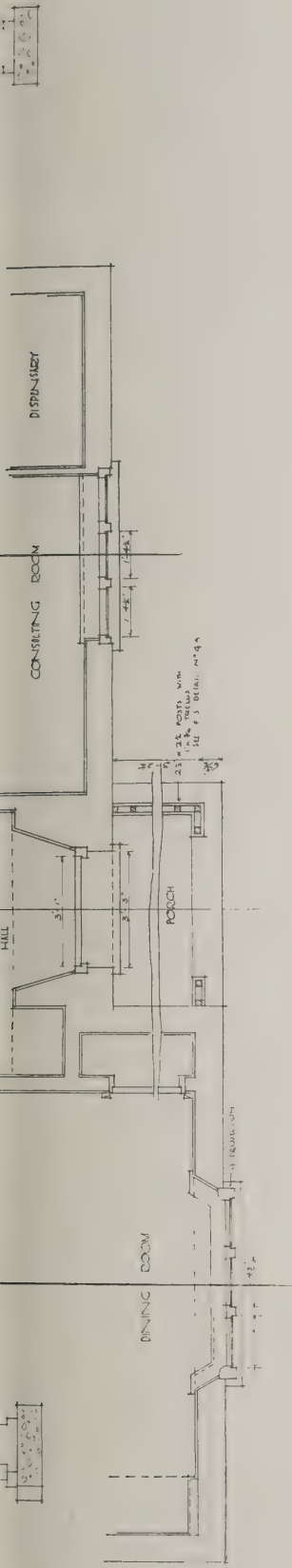


MANCHESTER OLD TOWN HALL. XI.—DETAIL OF CAPITAL TO COLUMNS OF FRONT ELEVATION.

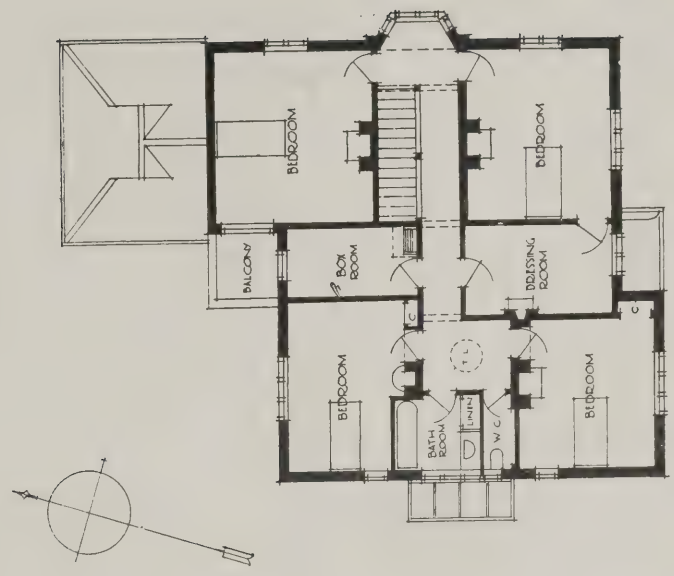
MEASURED AND DRAWN BY GORDON HEMM.

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GROUND FLOOR PLAN



FIRST FLOOR PLAN



WORKING DRAWINGS BY WELL-KNOWN ARCHITECTS (SERIES II.). X.—"LINKENHOLT," GIDEA PARK, ESSEX,
 JOSEPH SEDDON, A.R.I.B.A., ARCHITECT.

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to have built a house in this city, but who has since
quished his design," addressed an advertisement
e "New York Evening Post" "to gentlemen who
nd to build, and to Master Builders," in which he
ed plans of a house for sale. The plans had been
e by "one of the most eminent architects in Eng-
e, Mr. John Yenn, of the board of works, architect
e King, etc., etc." They were for a house of 25 ft.
tage, and contained "all the modern improvements
omestic architecture which are in houses of the
ent day, of that dimension in London." The
s were described as being "on fourteen sheets of
l paper for four storeys, containing the basement
its offices, the principal, bed-chamber, and attic
s, the elevations for front and rear, the door-case
large scale, with the cornice, frieze, architrave,
, capital, impost, and archivolt mouldings in their
and proper size; drawings for the iron balconies,
ice full size for the front of the house, and two
rings showing the manner of finishing the inside
e doors and windows, all complete for the work-
"

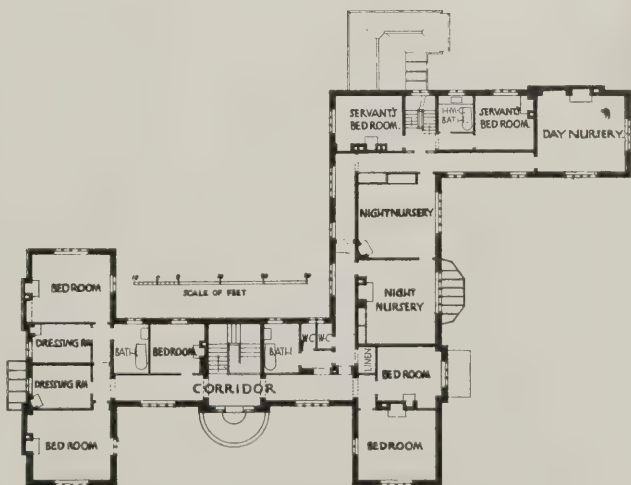
ne only wonder in the history of the Brethren of
Workshop of Vitruvius is that this interesting
ty had not been discovered by some architectural
rian long before Mr. Haddon came across the brief
orials that remain of it in copies of a New York
r printed considerably more than a hundred years
As the earliest society of architects in America
hich any record exists, it is unique.

Over-worked Boilers at Exeter Children's Home."
eading caught my eye in a recent issue of the
stern Times." I read as follows: "The engineer
ctor of the Vulcan Insurance Company having
lained of the way in which the steam boilers were
g worked at the Children's Home at Exeter (now
used as a V.A.D. Hospital), the surveyor (Mr.
rice) and the engineer interviewed Miss Buller, and
d the seriousness of the matter before her. Miss
er has since written, stating that she has given
ite instructions to the officer in charge that the
rs are not to be worked at a pressure of over five
ds. She added that if it were found that this was
ufficiently high pressure for the requirements of
ospital she would ask sanction of a readjustment
e boilers which would enable the pressure to be
ased to seven pounds." I am glad of this. Even
ler's feelings must be respected.

UBIQUE.



Ground-Floor Plan.



First-Floor Plan.

THE PLATES.

"Feathercombe," Hambledon.

THIS house is built on rather high ground sloping to the south. The walls are faced with roughish stocks of varying shades of red and brown, the "dressings" being of deep-red kiln bricks. The roofs are covered with deep-red hand-made tiles. The plans below show the accommodation on the ground and first floors. Mr. Ernest Newton, A.R.A., P.R.I.B.A., was the architect, and Messrs. Seward, of Wokingham, were the builders.

Plaster Overmantel from No. 25, Parliament Street, Westminster.

The architects of the late eighteenth century knew how to make good use of plaster and stucco decoration, and this overmantel is an admirable example of the skill alike of the designer and the craftsman. The oval medallion in the centre is a beautiful piece of work, and the surrounding floral scrolls and festoons are treated with great vigour and grace.

A Wall Tablet.

The wall tablet in Bedwellty Church, Mon., is a striking modern example of good lettering set within a wreath, a coat-of-arms providing a feature of crowning interest. It is executed in marble. Mr. Edward Warren, F.S.A., F.R.I.B.A., was the architect.

Wantley Manor, Henfield.

Wantley Manor traces its history centuries back, but the house shown in the illustration is, of course, Georgian, dating, we should say, from about 1790. It is built of brick with a heavy tile roof. The modillion cornice running right across the front in an unbroken line ties the whole design together, while the doorway gives a focal point of interest. The two small round windows on either side of the doorway are modern.

Ionic Capital from Manchester Old Town Hall.

The drawing shows a detail of the capital to the columns on the front elevation of the Old Town Hall, Manchester.

House at Gidea Park.

This is a doctor's house, recently carried out from designs by Mr. Joseph Seddon, A.R.I.B.A. The drawing is self-explanatory.

JAPANESE ARCHITECTURE.

BY H. H. STATHAM, F.R.I.B.A.

WHETHER Japanese building has properly a claim to be called "architecture" is a question which may be debated. The word is usually associated in our minds with monumental erections composed of solid and durable materials—granite, marble, stone, and brick, put together in masses, which afford the opportunity, in Ruskin's picturesque expression, for contrasts of "broad sunshine and starless shade," and for composition which is characterised by severity and restraint of line. When we think of such massive constructions as the Pantheon at Rome and Hagia Sophia at Constantinople, it seems difficult to include in the same category with these the picturesque eccentricities, as they seem to us, of the timber buildings of Japan. In the admirable article on "Japanese Architecture" contributed by an American architect, Mr. Cram, to Russell Sturgis's "Dictionary of Architecture," it is nevertheless claimed for Japanese architecture that it is "the most logical and completely developed wooden style that the world has known, and in its system and details it is as perfect an outgrowth of its medium, as scientific and elaborately developed, as in any of the stone styles of Europe." We are all apt, however, to get up a little extra enthusiasm over a subject of special study, and we must regard Mr. Cram's attribution of scientific construction and logical design to Japanese architecture as somewhat exaggerated. Logical it is certainly not, as an architectural treatment of timber, for it runs all into curved lines, and it is not the natural structural use of timber to treat it in curves; a material with a prevalent grain in one direction is much more naturally used in straight pieces, and, in fact, some of the curved lines so dear to the Japanese architect are artificially produced by planting thin curved pieces on to the straight lines of the structural timber. As to its scientific character, it is in some instances a little more scientific in construction than is generally supposed, as Mr. Cram has shown in the section of a pagoda at Horiuji, which is given as an illustration to his article in the Dictionary. Here we see that the decorative spike which appears as the finial to many pagodas is really the termination of a central mast, which forms the structural stiffener to the whole edifice.

As to the general effect of this architecture of curves and superimposed roofs, to appreciate it fairly one has to get rid, for the moment, of Western ideas in architecture, and endeavour to get, as it were, into the Oriental atmosphere. Western architecture appeals mainly to the intellect, Oriental architecture to the fancy. Even in Venice we feel the difference; the multitudinous picturesqueness of St. Mark's has the stamp of Orientalism all over it; and the farther we go east, the nearer we get to Oriental architecture uninfluenced by Western ideals, the more we find the architecture characterised by exuberant and fanciful forms and combinations. We see this in stone in the abnormal forms of the strange varieties of Hindu architecture, some of which appear to European taste as simply grotesque; yet they were no doubt considered beautiful and attractive by those who designed them. Fantasies of this kind in wood, such as those of Japan, are, however, less alien to Western taste than those which are carried out in monumental materials; we recognise that wooden construction can be more playfully treated than stone, without doing so much violence to our æsthetic convictions. And Japanese architecture has more of a consistent style about it than we find in the vagaries of Hindu architecture. It is the work of a people who had settled on a certain manner and spirit in the treatment of timber architecture and adhered to it. The origin of the style is undoubtedly Chinese, though the contemporary architecture of

China has perished, and the structure at Horiuji, which is believed to date from the end of the sixth century, probably shows us Chinese architecture as erected perhaps somewhat modified) in Japan. To quote Mr. Cram again: "It is a system of concentrated loads, the entire structure being supported on a number of columns tied together with massive girders, and braced in such a way that neither pins nor nails are necessary." In a structural sense, that is the best method about it; such a method of putting timber together is analogous to the system of bonding in masonry, and the form of structure suggested by the material is one which we respect it for its absence of mere fastenings, as we respect the French and English Gothic buildings, which stand by the balance of pressures, more than the Italian arcaded structures which can only be made safe by tie-rods. Every building material should be put together so as to have a stability inherent in its very manner of putting together; and in this sense the timber architecture of Japan was erected on sound principles.

But with this, and with the employment of the central mast, the claim of Japanese structure to be scientific seems to end. Truly scientific construction is one which promises the greatest stability with the least waste of material. In the typical Japanese structure there is a great deal of waste of material. After the sloping rafters of each roof are placed and tied in, a shorter rafter on the top of it and projecting a little beyond; this addition has no proper structural function, and, in fact, is structurally injurious, by weighting the end of the main structural rafter. It seems to have been a persuasion that this was necessary for the effect; it rather gives the idea of something done from habit and as a traditional method, with any other reason for it. That it does produce a characteristic effect was obvious from the fine series of models of Japanese architecture shown at the Japanese Exhibition; but it is a very clumsy effect which gives the impression of material piled on for no other purpose. It certainly cannot be called scientific construction, and even its appearance is bad. Unscientific timber construction, however, may be picturesquely pleasing enough in effect, as with the typical Japanese bridge.

It is a theory advanced by Mr. Cram that some of Greek influence had penetrated in early days into China (as it undoubtedly did into India), and thence into Japan, and he adduces in proof of it the example of a column with entasis, found in an ancient building, the Kondo, at Horiuji. But it can hardly be called a column with entasis; it is a column straight at the top and bottom and with a bulge in the middle, having some resemblance to a Saxon baluster, but about as far as possible in appearance from any Greek. There is no need to look farther for the origin of it than the fancy of some Japanese architect. In the structure of the timber bell-screen at Nara, certainly are reminded, not of Greece, but of the Minor, for we at once think of the Lycian tomb in the British Museum, with its stone imitation of timber structure. Here, in an actual timber structure, we see the same treatment of the mortised horizontal beams projecting out beyond the uprights. But this may be only a case of the same causes producing the same effects.

Perhaps the special note of Orientalism could hardly be better exemplified than in the Buddhist temple at Osaka (shown by the illustration opposite)—a group of delightfully incongruous and illogical, according to Western ideas. The two blocks of building seem to have no reference to one another in point of design.

are planted together in juxtaposition, but for any architectural relation they might be miles apart. The erection at the back shows again the head of the structural mast, treated as a decorative finial. Oriental, is the absence of any attempt to diversify the successive storeys of the building. With us, to build a succession of storeys all just alike, with no grouping or variation in their importance, would be an architectural *crété* which would be thought commonplace. To the Oriental, apparently, repetition is sufficient in itself, without any attempt at varying proportion or treatment; one could imagine the Tower of Babel started on the same kind of programme, only with a more monumental construction; there seems no particular reason why there should not be five more storeys. The purely utilitarian feature of the buildings is the sole square panelling of the containing wall (if one uses the word "wall" for such a structure); here, once the passion for curved lines gives way, and everything is straight and rectangular. It almost gives the idea that it is a modern reconstruction of the outer partition, on Europeanised lines; or else, perhaps, some of the original painted ornament from it has appeared. At all events, its plain squares seem very out of keeping with the curvilinear character of the roof lines.

The national Japanese style is, we are told, practically a thing of the past, except for some small private houses. All public architecture is becoming European. It is inevitable that it should be so.

CORRESPONDENCE.

University Status for Architecture.

To the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.

SIRS,—In your editorial comments (August 25) on the new law as to Registration that has been adopted for New York State, you seem to point a moral for our own country. In mentioning that the candidates for Registration certificates are to be examined under the supervision of the Regents of the University, while the examiners are to be five architects of not less than ten years' standing, you hinted rather than expressed your approval of giving university status to architecture. This is all very well, but what about the unfortunate youth whose "poor but honest" parents cannot afford him a university training? Is the architectural profession to become a close corporation for the well-to-do? If it is to be thus exclusive, I for one cannot imagine that architecture as an art will benefit by the change. And, indeed, with middle-class incomes diminishing at the present terrible rate, I cannot see how the supply of gilt-edged neophytes is to be maintained at anything like adequacy of numbers. If it is to be a question of whether architecture is to be a too close or a too open profession, I think I should prefer it to be the latter, but I am open to conviction.

CYNICUS.

[For further comment, see p. 91.]



BUDDHIST TEMPLE, OSAKA, JAPAN. FROM A WATER-COLOUR DRAWING BY A. C. CONRADE.

THE EVOLUTION OF ROAD CONSTRUCTION.

NEVER before were the highways subjected to so much wear-and-tear from traffic that is "extraordinary," as the legal phrase goes, not less by its volume than by its weight. It is highly probable that in future the making and maintenance of roads will have to be revised in the light of national needs in time of war. The subject having assumed so much importance, it will be useful to reproduce here the following portion of a valuable article on "The Evolution of Road Construction," contributed to "Specification," by Mr. W. H. Maxwell, A.M.I.C.E., Borough and Water Engineer, Tunbridge Wells Corporation. It gives a clear insight into the gradual development of road construction. The provision of good roads and other efficient means of communication throughout a country has long been recognised as one of the most promising means of developing its resources and commercial interests. The Romans thoroughly appreciated the importance of this principle as shown by their many lasting works of road construction in this country and on the Continent. (See Fig. 1.).

A great many of our old highways are heritages of long past years, more or less of the primitive description shown in Fig. 3. They seldom possess any real foundation or proper subsoil drainage, and, being constructionally too weak to carry modern traffic, the surface metalling wears much faster than would be the case in a properly designed road, such as that proposed by Telford (Fig. 2), having a hand-pitched stone foundation. The cost of providing such a foundation varies widely according to the locality and facilities of obtaining suitable materials, but for a country roadway, seven yards wide, under ordinary conditions it is not likely to be less than about £1,400 per mile. If this same area of surface is coated with broken granite 6 in. in thickness, this will add something like £1,800 per mile, making £3,200 per mile for the completed

road. To tar-paint this surface and sprinkle with fine granite chippings will cost about an additional £80 per mile of road.

A section of a good-class country main road is given in Fig. 9.

For maintaining country roads and the lighter trafficked roads in urban districts, there appear at the present time to be three methods of surfacing which are adopted to a greater extent than others, viz., water-bound macadam tar-painted, tar-macadam, and pitch-grouting.

Water-bound macadam tar-painted roads show a very fair life in cases where the traffic is not too heavy. The Road Board have issued "General directions for strengthening and surfacing an existing road with steam-rolled water-bound macadam," which are intended to form a general basis for guidance in this class of work. The decision to change from a water-bound macadam surface to an improved type will depend upon the traffic statistics, and the annual cost of repairs from year to year. An ordinary good serviceable town road of granite macadam is shown in Fig. 11.

Tar-macadam varies considerably in different situations and circumstances according to the nature of the aggregate, the quality of the tar, the soundness or otherwise of the road foundation, the weather, character of the traffic, and method of laying. When prepared from a suitable aggregate, and laid on a sound foundation, tar-macadam makes a very excellent roadway for cases where the traffic is not too heavy. Being of a yielding nature, especially during hot weather, it is liable to movement under very heavy loads unless the foundation is a thoroughly good one. Cases of failure which have occurred are often attributable, not to the tar-macadam, but to weakness of the foundation. The usual thickness when laid is from 3 in. to 4 in., the bottom layer being sometimes made from a less costly aggregate, such

as limestone or Kent rag. The surface should be of the very best quality of selected slag tar-macadam, or, in cases where a suitable granite is procurable at a reasonable price, granite tar-macadam has given good results, but is more liable to work loose at the surface. Kent rag macadam is not suitable as a wearing surface, except under the lightest class of traffic, but may be provided with an armouring of asphalt manufactured in Trinidad bitumen. Provided the macadam is in a suitable condition to receive same, a coating of dehydrated asphalt and granite chippings greatly assists in binding the surface and protect it from wear. A seven or eight-ton roller is quite sufficient for the consolidation of the macadam, and no advantage is gained by excessive rolling.

The cost per square yard varies from about 2s. 9d. to 5s., according to the locality, cost of carriage and cartage, the conditions under which the work is to be done, and many other local factors.

Many engineers and surveyors who have had good-class tar-macadam and pitch-grouted macadam roads laid under similar conditions of traffic have, as a result of experience, expressed themselves in favour of the previously prepared tar-macadam compared with the latter method.

Pitch-grouting.—In this process the road surface is first shaped to a proper curvature, and upon the prepared surface the new granite macadam is spread to the required thickness and dry-rolled to consolidate the stone and so reduce the surface to a minimum. Into this new surface

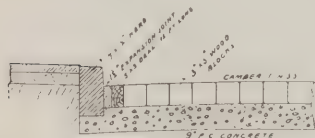


Fig. 8. Wood-block Paved Road on Concrete Foundation.

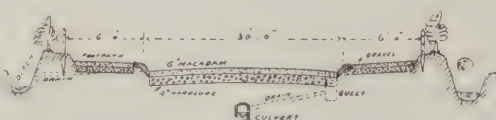


Fig. 9. Good-class Well-drained Country Road.

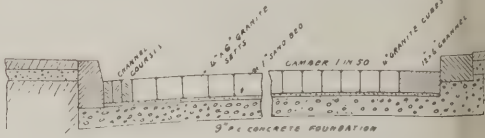


Fig. 10. Granite Pitched Roadways for Heavy Traffic.



Fig. 6. Rock Asphalt and Tar Macadam Roadways.



Fig. 7. Aigburth Road, Liverpool.

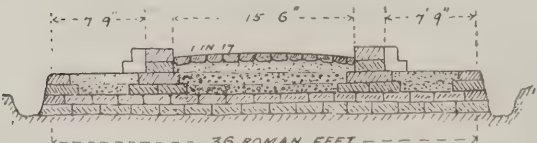


Fig. 1. A Roman Road.

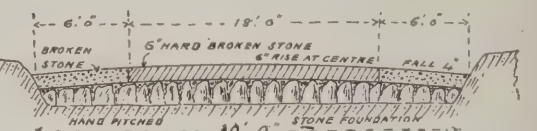


Fig. 2. Pitched Foundation to Road as employed by Telford.

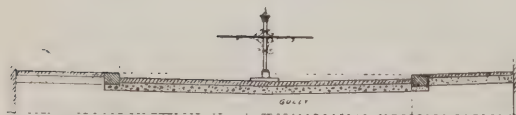


Fig. 4. Double Hanging Roadway.



Fig. 3. Old English Highway (18th Century), showing condition before and after repair.

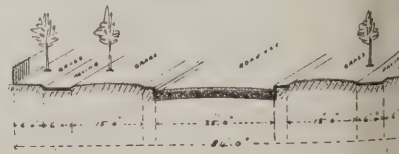


Fig. 5. Queen's Drive, Liverpool.

and a heated pitch compound, the quantity of which will depend upon the thickness of the coat of metalling, the quality of the stone used, and the percentage of interstitial voids. Final consolidation is carried out with a ten-ton steam roller immediately after pouring the pitch, and is proceeded with as quickly as possible before the matrix has time to set. Granite chippings are spread over the grouted surface, part before rolling and the remainder during the process of rolling.

Where the traffic is heavy, pitch-grouting may be done in two layers, the lower consisting of an inferior quality of pitch to that used for the wearing coat. The bottom layer is grouted with pitch as usual, but not brought quite up to the level of the stones in order to afford a level for the upper course.

"Single pitch-grouted macadam," 3 in. thick, carried out on the Sidcup and Eltham road, cost 4s. 1d. per sq. yd., and "double pitch-grouted macadam," with Kentish ragstone for the lower layer, cost 7¼d. per sq. yd., but for larger quantities no doubt the cost would be somewhat less.

Numerous proprietary materials and methods have been introduced from time to time during recent years for the construction of road surfaces, mainly with the object of producing an impervious and durable surface. Many of these have been tried on the Sidcup and Eltham roads under the auspices of the Road Board, and all descriptive particulars, wear, and cost of these will be found in the "Interim Report" of the Board (January, 1913).

On roads carrying a considerable amount of traffic require to be specially considered according to the circumstances of the case, and the principal alternatives are:—wood-paving, either hardwood or soft-wood, granite setts, or tarmac—all three materials being laid upon a solid bed of Portland cement concrete.

Fig. 8 shows a town road laid with 5 in. creosoted soft-wood blocks on a Portland cement concrete foundation of 5 in. by 3 in. deals at sides and expansion joint. The cross camber is 1 in. 55. The cost may be from 11s. 6d. to 12s. 6d. per sq. yd. under ordinary circumstances.

Typical sections of modern granite setts roads are given in Fig. 10. In the left-hand section 4 in. by 6 in. granite setts are laid on a 1-in. sand bed or cushion, three courses of pitchers placed longitudinally to form the channel. The construction in the right-hand section consists of granite cubes, with a 12-in. by 6-in. channel. The camber of the cross-section is 1 in. 50, and the foundation consists of 9 in. Portland cement concrete. This section will make a thoroughly good town road, suited to heavy traffic. The approximate cost will probably be 15s. to 18s. per sq. yd., according to facilities and conditions. The total cost may be anything from fifteen to twenty-five years or more according to the nature and character of the traffic.

For asphalt and tar-macadam roads or well-trafficked town roads may be shown in Fig. 6. It is quite common for ordinary country main roads or rural urban roads to lay tar-macadam upon the old macadam road surface without any special preparation, but for the work of a busy town road a better foundation may be necessary, as the weight of the traffic has to be carried by the foundation.

For rock asphalt is usually laid about

2 in. thick on concrete, with a cross fall of 1 in 70 or 80.

Double-hanging roadway (Fig. 4).—This cross-section of roadway is sometimes adopted for special cases, in which the up and down traffic is divided by a central line of standards, which also serve to carry the overhead tramway wires. There are no surface-water channels at the kerb lines, and all drainage flows to the centre of the road.

Queen's Drive and Aigburth Road, Liverpool (Figs. 5 and 7).—These cross-sections afford good examples of modern road construction and planning. The large widths of grass may, in the future, be utilised for widening the carriageway and footways when necessary to meet the increased traffic requirements. The trees have been planted in such positions that this can be done without their disturbance.

Other road improvements found desirable on highways include the strengthening, widening, and easing of the gradients of bridges, the lowering of boundary hedges, especially at dangerous bends, corners, and cross roads. Special attention should be directed towards giving the motorist as long and clear a view ahead of him as possible, as this will contribute towards prevention of accidents.

Road signs and direction posts are of the greatest assistance to motorists and should be made as clear and numerous as possible. There is doubtless much room for improvement upon the average existing signs, as many of these cannot be read by the traveller until he is quite close up to the signpost, thus involving a stop and sometimes a turning back. Signs, wherever possible, should be placed so that they can be read by the approaching traveller whilst still at a distance from the direction posts.

Street mirrors to reflect the image of approaching traffic, though erected in several towns, have not met with any great success. The reflected image is liable to be misunderstood by the driver, and the signs are very much subjected to costly damage by mischievous persons.

Caution in the use of the roads is becoming more and more necessary as shown by the numerous accidents which occur year by year. The education of the general public as to the altered conditions of the use of the roadways has not kept pace with the development of fast mechanical traffic. The change has been great, and the highways must henceforth be looked upon as lines of communication much in the same way as railways are regarded in reference to matters of safety. Children should not, for example, be allowed to play in the roadways, and all members of the general public, whether on foot or otherwise, should keep to the "rules of the road," should cross quickly and with caution, and remember that the roads are for the use of moving traffic of various kinds and speeds.

The tar-painting of roadway surfaces has stood the test of practical experience for some years past, and has consequently outlived many proprietary processes having the primary object of allaying the "dust-nuisance." Although some few road surveyors have not had the good fortune to experience themselves the advantages of "tar-painting," the general consensus of experienced opinion is favourable to the process. The advantages are: dust is much reduced where the tar-paint is in good condition, the tar dressing preserves the disintegration of the road surface during dry weather and also during very heavy rains, the binding material is kept in position, and the surface wear of the macadam is reduced.

The increase in the cost of tar is, however, a factor to be reckoned with. The price is now some three or four times what it was before road-tarring days, and, with the probable future increase in the bituminous methods of road construction, all involving the consumption of tar, there seems every prospect of the price going higher, unless some competitive source or material becomes available other than the ordinary by-product output of the local gasworks.

ARCHITECTS' WAR COMMITTEE'S OFFER OF SERVICES TO THE GOVERNMENT.

On this subject, to which further reference was made in our editorial columns last week, we have received the following correspondence, which arrived too late for inclusion in last week's issue:—

To the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.

August 19, 1915.

SIRS,—The reply given by Mr. Tennant, Under-Secretary of State for War, to a question concerning the use which the War Office has made of architects' services, quoted in the Editorial of your issue of August 18, 1915, and your comment thereon, are enlightening as showing the fallibility of official statements, and the extent to which the Press and well-informed persons can be misled thereby.

The offer of service in question was made in writing on September 11, 1914, before the work of erecting huts was put in hand, and at a time when full advantage could have been obtained from it. It was not made in May, 1915, when the greater part of the work had been done, as stated by Mr. Tennant.

The offer of service was comprehensive, and was not only of the service of the members of the R.I.B.A., but of all other members of the architectural profession.

It was acknowledged in a War Office letter, F.W. 4, dated September 23, 1914, in the following words:—

"The Army Council much appreciate the patriotism which has prompted this offer, which has been noted for future consideration."

I enclose copy of the correspondence containing the offer, its acknowledgment by the Right Hon. J. A. Pease, P.C., M.P., and the War Office letter of September 23, from which I have quoted.

C. STANLEY PEACH,
Hon. Secretary, Architects' War Committee, 9, Conduit Street, Hanover Square, W.

Copy of letter from Architects' War Committee to the Right Hon. J. A. Pease, M.P.:—

September 11, 1914.

SIR,—The Royal Institute of British Architects, feeling it to be their duty in this national emergency to arrange for such collective action by the architectural profession as may be found to be desirable, have, with the co-operation of members of other architectural bodies, formed an Architects' War Committee, which is broadly representative of the whole of the profession in the United Kingdom.

This Committee desires to offer to His Majesty's Government an assurance of the loyal and energetic support of the profession in any direction which may be found to be practicable and desirable.

It is felt that the Imperial Government is best able to indicate what form of assistance would be of most value to it,

and the Committee would welcome any suggestion from the Government in this direction.

The Committee is prepared to furnish information on all matters in which the State may require the services of architects in any part of the United Kingdom during the period of the war, and to give advisory assistance in connection with any schemes of construction which the Government may contemplate in this emergency. We have the honour to be, Sir,

Your obedient servants,

(Sd.) ERNEST NEWTON, P.R.I.B.A.,
Chairman of the Architects' War Committee.

(Sd.) C. STANLEY PEACH, F.R.I.B.A.,
Hon. Secretary of the Architects' War Committee.

The Right Hon. J. A. Pease, M.P.

Copy of an acknowledgment by Right Hon. J. A. Pease:—

Whitehall, London, S.W. September 14, 1914.

DEAR SIR,—I have to thank you on behalf of the Government for your letter of September 11 and for the generous and patriotic offer of help made by the Architects' War Committee. I am forwarding your letter to other Government Departments, and if any opportunity of utilising your help arises a further communication will be sent to you.

Yours faithfully,

(Sd.) JOSEPH A. PEASE.

C. Stanley Peach, Esq., Royal Institute of British Architects, 9, Conduit Street, Hanover Square, W.

Copy of War Office acknowledgment:—
War Office, London, S.W., September 23, 1914.

(F.W. 4.)

SIR,—I am commanded by the Army Council to acknowledge the receipt of your letter of the 11th instant, addressed to the Right Hon. J. A. Pease, P.C., M.P., offering the services of members of the Royal Institute of British Architects and other gentlemen of the architectural profession at the present juncture.

I have to say that the Army Council much appreciate the patriotism which has prompted this offer, which has been noted for future consideration.

I am, Sir,

Your obedient servant,

(Sd.) B. B. CUBITT.

The Hon. Secretary, The Architects' War Committee, R.I.B.A.

DEMARCATION DISPUTES.

The proposed regulations for the National Demarcation Scheme to settle disputes in the building trades have now been officially issued for the purpose of endorsement by the members of the affiliated unions. The object of the scheme is to adjust all questions or disputes relating to demarcation of work that may from time to time arise. Any dispute or question that may arise shall in the first instance be dealt with by the joint local trade committee or representatives of the employers and operatives of the trades affected, but if they are unable to come to an agreement within four clear working days then the case shall be referred to the local Demarcation Committee for the district, which shall meet within eight days, and pending a decision of the Demarcation Committee, no stoppage of work shall be allowed on any pretext whatever. All decisions shall continue for a period of twelve months and thereafter until brought

up for review on three months' notice by any trade concerned. Local Demarcation Committees shall be formed in all districts where employers and operatives are sufficiently organised, and such committees shall consist of not exceeding two representatives from the local operatives' branch of each trade association that is a party to the agreement, together with an equal number of employers. Should the local Demarcation Committee be unable to arrive at a settlement of any case or matter in dispute within twelve days from the receipt of notice from either side, there shall be an appeal to the Centre Demarcation Committee. There shall be one Centre Demarcation Committee for each centre district of the National Federation of Building Trade Employers, and the ordinary meetings of the Centre Committee shall be held quarterly.

BOOK NOTICE.

New Text-book on the Strength of Materials.

When structures were relatively few, and materials relatively plentiful, although of less diversity and complexity, there was comparatively little need for the careful calculation of stresses and strains which is to-day essential to sound and economical construction. Before wood was scarce, and while labour was cheap, our forefathers cared nothing for the waste of wood in making the scantling twice the size it need be; but to-day the strenuous endeavour to secure the utmost economy compatible with stability renders necessary a rather close study of the strength of materials and the theory of structures.

To-day the architect, as well as the engineer, is bound to acquire a considerable knowledge of the strength of materials—not merely what is called a "practical" knowledge, but a fair grounding in theory and principle—and, whether or not he has already taken up the subject seriously, he will be glad either to study from cover to cover, or to consult as occasion may require, so efficient a treatise as that which Mr. Ewart S. Andrews has provided. It has been the author's aim to produce a book that, while of special usefulness to students preparing for examinations, shall "be of greater assistance in practical design than is the case with an ordinary class-book." To these ends he has worked out a large number of numerical examples, and has incorporated many diagrams and tables that greatly facilitate the application of formulæ. At the same time, the author has been careful to avoid a peculiar vice of theorists. "We cannot," he says, "condemn too strongly the blind application to a particular practical problem of formulæ which were never intended to be so applied; the unfortunate distrust which practical engineers so often have to 'theory' is to some extent brought about by the fact that the theories that they see employed are often inapplicable. It is essential for us," he continues, "to acknowledge the limits of theoretical methods and not to attempt to express our results to a greater degree of accuracy than the nature of the problem will allow." In that spirit he has planned and executed a manual that, covering in its twenty chapters the whole scope of the subject, will afford the architect a valuable means of acquiring, in at least one branch of his profession, that clearer insight and firmer grasp which are to denote the bracing effect of the war.

"The Strength of Materials." A Text-book for Engineers and Architects. By Ewart S. Andrews, B.Sc. Eng. (Lond.). With numerous Illustrations, Tables, and Worked Examples. Pages x. + 604, 54 in. by 9 in., 10s. 6d. net. London: Chapman & Hall, Ltd.

BIRMINGHAM'S RING ROAD

When the Town Planning Committee of the Birmingham City Council came into being they recognised that there was an urgent need for improving the roads connecting the various suburbs. The existing main roads nearly all radiate from a centre of the city towards the boundaries, and of late years, says a writer in "Birmingham Gazette," there has been an extraordinary increase in the traffic on these roads due to the growing popularity of the motor-car. In order to prevent congestion of traffic along these roads, which it was thought would occur in the near future, the Town Planning Committee adopted the suggestion to construct what is known as a "ring road" round the city. Under the Quinton, Harborne, and Edgbaston scheme, arrangements were made for the construction of a 100-ft. road running from Hagley Road to Calverley. The first portion of this pioneer scheme will shortly be completed, and the last loads of tar-macadam are now being laid down.

Under this scheme a road of similar width will run from Quinton into the Lordswood Road near Harborne Park, while it also provides for the construction of a road 60 ft. wide from a point opposite Hagley Road Station and running along the side of the Harborne Tenants' Estate in Lordswood Road, which has the distinction of being the first 100-ft. road in the city.

When the whole of this scheme has been carried out, many people who live in the suburbs mentioned would welcome the introduction of a service of motor-buses between the Hagley Road and Bristol Road, for at present unless Edgbaston and Bearwood people are prepared for a long walk they have to come into the centre of the city in order to reach either Selly Oak or Northfield.

Mainly owing to the difficulty in obtaining labour, the task of widening Lordswood Road has proved a much longer one than was originally anticipated.

In the near future the Bristol Road will be reconstructed on similar lines, except that the tram track will be separated from the carriage way by a grass belt 11 ft. wide. On the Lordswood Road the trees have, as far as possible, been left in their old positions, while in addition to a portion of the footpaths being turfed, a row of trees has been planted along each side of the road, so that it is to a large extent in keeping with the rural character of the district through which it runs.

COMPETITIONS.

Free Libraries, Nottingham.

Mr. J. Alfred Gotch, F.R.I.B.A., town clerk and assessor in this competition, has made the following awards: Highbury Road branch: 1, Messrs. Lawrence, Bright, and Thoms; 2, Mr. W. H. Higginbottom. Nottingham Road branch: 1 and 2, Messrs. Sutton and Son. Bruce Grove branch: 1, Mr. F. W. C. Gregory; 2, Messrs. John Howitt and Son.

NOVEMBER 30.—TOWN PLANNING SCHEME, YORK.—The Town Planning Committee of York Corporation invite competitive schemes under the Housing and Town Planning Act, 1909, in connection with certain areas within and without the city of York. Premiums of £100, £50, and £25 are "to be awarded by competitive assessors." Schemes are to be sent in by November 30, 1915. Conditions (£2 returnable) from F. W. Spurr, City Engineer, Guildhall, York.

PROFESSIONAL CLASSES WAR RELIEF COUNCIL.

Professional Classes War Relief Council have undertaken to organise a Mas Fair at the Albert Hall for the purpose of raising funds for the relief work of the Council.

Organising Committee will be composed of Committees representing the various professions, and a committee—as "The Architects' Committee"—has been formed to represent the profession of Architecture and Surveying. The Committee is under the chairmanship of Ernest Newton, A.R.A., and Mr. Ian Johnston is the secretary.

The Architects' Committee, which has been formed to assist in the organisation of the Mas Fair, is anxious to make the undertaking widely known to architects and surveyors, and to stimulate the collection of the 5s. gifts which will be sold at the Fair for the benefit of the Professional Classes War Relief Fund.

BRADFORD HALL RESTORED.

Bradford Hall, Bradford, has been restored and converted into a museum, and has been formerly a mansion that had come from its high estate to a dilapidated ruin cut up into tenements. To-day, as the "Yorkshire Observer," the hall presents externally the charm of a Tudor garden. Internally it is capable of being a source of interest to all who follow in its varied architecture and find traces of English domestic life existing over many centuries.

A striking feature of the structure is that it comprises architectural features from the fourteenth to the early part of the nineteenth century. Modern divisions having been removed, it is now free to roam through the building and see how English architecture in its domestic character changed from the thirteenth to the mediaeval, with its rugged stone, to the lighter Elizabethan, with its comfortable panelling and picturesque half-timbering, and on to the staid structure of the Victorian period. The restoration, finally, has resulted in some exceedingly interesting disclosures of the little architectural treasures that have lain hidden for ages behind brick and lath and plaster. The ceiling of the fourteenth-century kitchen, for instance, was covered with lath and plaster, the removal of which has revealed the original picturesque oak panelling. The old entrance to this part of the building has been opened out. A very fine open fireplace, in what must have been the kitchen, had been bricked up. When the brickwork was cleared away there was found hanging in its place within the recess an ancient meat-jack. By the removal of a brick wall which had been built across the room it has been restored to its former proportions.

The ancient rooms above the kitchen are also to be exceedingly interesting. Why lath and plaster should have been used to cover up the beautiful moulded beams now visible in the ceiling it is difficult to understand.

Some fine old beams have also been uncovered in the room on the third floor, and this part of the building is now in a large extent in the condition of the original hall, when it was a fortified dwelling. An exception is to be found in the case of the windows, which in ancient times were narrower than those now existing.

The fifteenth-century portion of the building consists of a particularly interest-

ing discovery. It is a piece of half-timber work which is unusually striking, inasmuch as the visitor encounters it inside the building, in violent contrast with work of a later period. This half-timbered wall was disclosed through the restoration involving the reconstruction of a staircase. The wall was also concealed behind lath and plaster. The discovery recalls the fact that it was the custom in this district to build domestic houses of half-timber work down to about 1550. Probably the half-timber work at Bolling Hall belongs to the sixteenth century, or earlier.

The curious fact is that the half-timbered wall encloses a seventeenth-century room. This is known as the "ghost room," and is associated with a well-known local tradition. Some beautiful carving on the mantelpiece has been revealed by the removal of an accretion of paint that must have been the collection of ages.

Another important restoration is that of the fine window in the great hall. It was once of stained glass, but only a few fragments remained. The window has been re-leaded and glazed, and the few pieces of ancient stained glass have been introduced, while some coats of arms of former owners of the hall—in modern glass—have also been inserted. A half-circular window above the main window, formerly bricked up, has been opened out. In one of the sixteenth-century rooms it was found that the beautiful panelling had been painted and grained to resemble oak—a painting of the lily and the gilding of fine gold, a process long ago noted as a work of supererogation. Of course, this paint has been removed. During the alterations there was found the remains of a very beautiful sixteenth-century screen, with panels of a somewhat rare variation of the well-known "linen pattern," of special interest because there is an identical example at Hampton Court. An outhouse which obscured some windows has been demolished, the Georgian part of the building has been furnished, a good deal of plaster has been added to some of the walls in the ancient part, and radiators for heating have been installed. In the garden two old wells were discovered. That at the west end of the building has been fitted up with well-head and pulley-bar of Elizabethan type.

NOTTINGHAM'S NEW BRANCH LIBRARIES.

The awards in this competition are given on p. 98, under "Competitions." The following description of the designs is abbreviated from the "Nottingham Guardian":—

Nottingham Road.

Messrs. Ernest R. Sutton and Son submitted two designs for this library, for which they received both awards. The design placed first shows a simple and well-proportioned building. The walls will be built of red brick in small courses and stone dressings. The floors of the public rooms are to be of wood blocks and the hall and vestibule of mosaic. The fittings, screens, and furniture are of oak. The sizes of the principal rooms are: Lending library, 36 ft. by 32 ft.; general reading-room, 55 ft. by 25 ft., providing accommodation for sixty-four people at tables and twenty newspaper stands. The juvenile room is 18 ft. by 18 ft., and is arranged for twenty-four juvenile readers.

Bulwell Branch.

Corner of Highbury Road and Station Road, Bulwell. Architects of design placed first, Messrs. L. Bright and Thoms. Reading-room, 65 ft. by 25 ft.; lending library

on the open-access system, 39 ft. by 27 ft.; juveniles' room, 28 ft. by 25 ft. External elevations to have brick facings and Hollington stone dressings. Entrance in stone. Reading-room and the lending library to be paved with wood blocks and the entrance hall with terrazzo.

Bruce Grove.

The design placed first was by Mr. F. W. C. Gregory, of Nottingham, who until recently was a partner in the firm of Messrs. Sutton and Gregory. Provision is made for a lending library, 37 ft. by 30 ft., with shelving to accommodate 10,000 volumes, a general reading-room 66 ft. by 22 ft. 3 in., a juvenile reading-room 22 ft. 3 in. by 22 ft. 3 in., staff room, cleaners' room, filing room, and sanitary accommodation. The architectural treatment is a free rendering of the Renaissance style. The front to Bruce Grove will be of brickwork in narrow courses, with stone dressings treated in a simple manner.

COLLAPSE OF A WALL.

An inquiry into the deaths of two young women from the collapse of a wall in Northbrook Place, Bradford, on August 4, was concluded at the Bradford Town Hall on August 25 before the City Coroner (Mr. J. G. Hutchinson).

Abram Patchett Clough said that during the last thirty years he had frequently passed the wall, and he had noticed that during the last eighteen months the deposits behind it had gradually increased. About two years ago he noticed that the top portion of the wall was bulging, and subsequently two iron rods with stays attached were put through the wall. He had never informed the authorities that he considered the wall dangerous. He noticed about two months ago that one of the plates attached to the rods was missing.

Thomas Poyser said he had noticed that part of the wall bulged out slightly about eighteen months ago. He had also noticed some of the deposit behind the wall being removed, and that one of the iron plates was missing. The bulge seemed to get worse, but he had never mentioned the matter to anyone in authority. About five o'clock on the morning of the accident he noticed water oozing slightly through the wall about 2 ft. from the ground and 18 in. from the Canal Road end.

Detective Bailey (coroner's officer) stated, in respect to the allegation that the condition of the wall was reported to a constable, that several officers who might have been on the beat had been interviewed, but they could not recall any such incident. The police had instructions to report such things at once, and had by doing so rendered much service to the City Surveyor's department.

Walter Jackson, architect and surveyor, who inspected the fallen wall on August 19, said it was an ordinary boundary wall, well built, some 16 in. thick, and about 6 ft. 10 in. high. It was not a retaining wall. The Coroner: Should it have been used for bearing a heavy weight, similar to that for which it had been used? Witness: Certainly not. The witness added that the material behind the wall was of a sandy nature, somewhat crumbling and it would absorb a considerable amount of moisture, which would increase the weight and bulk, and would cause extra pressure on the wall. The stays had prevented more of the wall falling. At the place where the wall fell the deposit at the rear was greater than at the other part, and at a short distance back the deposit was higher than the wall, which, said witness, was "super-

loaded." In his opinion the ordinary observer who knew anything about the construction of walls should have known that there was an element of danger in using the wall for such a purpose as that for which it had apparently been employed. In reply to Mr. Wade, the witness said the face of the deposit where the fall took place seemed to be moderately upright. Mr. Jackson added that he did not think the wall would have been prevented from falling if the missing stay had been on. There was a large amount of heavy traffic along the road, and consequently much vibration.

The jury returned a verdict to the effect that death was due to injuries caused by the collapse of the wall in consequence of the deposit against the wall being more than it was able to bear; and that there was neglect on the part of some person or persons, but such neglect was not of a criminal or culpable character.

A legal representative of the firm owning the wall expressed their profound regret at the accident, and offered the assurance that they had no idea that the wall was in a dangerous condition.

NEWS ITEMS.

For the Relief of Belgian Builders.

The National Federation of Building Trades Employers of Great Britain and Ireland has raised £1,372 for the Belgian Builders' Relief Fund, of which Yorkshire has contributed £412. It is proposed to raise £200 per month for this fund.

"Blomfield—Cruttwell."

On Tuesday, August 17, at St. Mary's, Frome, Mr. Henry George Blomfield, I.C.S., elder son of Mr. Reginald Blomfield, R.A., ex-P.R.I.B.A., was married to Miss Frances Blomfield Cruttwell, elder daughter of Mr. Percy Wilson Cruttwell, of Northcote, Frome.

New Hospital for South Africans.

South Africans in London have decided to establish in this country a hospital for their wounded countrymen, and to open a South African Hospital and Comforts Fund, towards which, through the energy of Sir Lionel Phillips, £16,500 has been collected.

A Huge New Dunlop Factory.

The centralisation of the various Dunlop factories on the new site of 72 acres that has been acquired at Erdington, on the outskirts of Birmingham, will provide a factory of sufficient dimensions to stir the imagination. A start has been made with 9 acres of shops for the manufacture of solid tyres, motor covers, and inner tubes, and ultimately the buildings will cover 48 acres and probably employ about 10,000.

New Town Hall for Shrewsbury.

It is understood that the Shrewsbury Corporation have under consideration several sites for the new Town Hall and municipal offices. Some time ago the Corporation and the Salop County Council came to agreement whereby the Corporation received a sum of £12,000 to forego the right to use the Guildhall as municipal offices. This money will now be used to erect new Corporation offices, etc.

Union Jack Club Extensions.

The Union Jack Club, opposite Waterloo Station, which was opened by King Edward in 1907, as a memorial to the men who died in the South African War, is to be greatly extended, and the new wings are to be dedicated as a memorial of the present gigantic conflict. Sir Edward

Ward and the council have negotiated with the Ecclesiastical Commissioners for the purchase of vacant ground to the north of the present building, at the price of £9,500, of which £6,000 is to remain on mortgage.

Discovery of Old Plasterwork at Richmond.

In the course of structural alterations at the Old Friars and Abingdon Lodge, Richmond Green, for the purpose of enlarging the Red Cross hospital in the former building, a wall was discovered composed of plaster or stucco, on which was a fresco of floral design. It is believed to be a part of the convent of Observant Friars, built in 1499. The order was suppressed with others in 1534. The other side of the plaster wall is lined with oak panelling.

New School for Rosyth.

Dunfermline School Board have received intimation from the Education Department that they can proceed at once with the erection of a new permanent school, to take the place of the temporary structure, at Rosyth. Like all other public bodies, the Board was warned at the outset of the war against incurring capital expenditure, but this concession has been granted in view of the exceptional circumstances, particularly the expected rapid increase of the permanent population appertaining to Rosyth. Competitive plans were recently obtained for the new school, which is expected to cost over £20,000.

Extending Millwall Dock.

Additional sheds covering an area of 48,600 square feet are to be provided at Millwall Dock, where lately, another 108,000 square feet were provided. The work is undertaken at the instance of the Port of London Authority. Similarly at the Royal Victoria Dock it has been arranged to re-erect a shed with an area of 49,000 square feet which formerly occupied the site of the new cold storage sorting shed at the Royal Albert Dock. By these and the previous additions made since war began between 10 and 11 acres of additional shed accommodation will be at the service of the port.

Leeds Labour Trouble.

A stoppage of work occurred in the Leeds building trade last week, the builders' labourers having struck on the ground that their claim for a 20 per cent. war bonus had not been granted. The application was made five months ago, but the Master Builders' Association have not seen their way to agree to the demand. They, however, offered the men work for an hour's overtime each day with pay at time and a quarter. The men declined this and came out. The masters hold this to be a violation of an agreement entered into in April, 1913, which is supposed not to expire till April, 1917. The position of the contractors is that they have many contracts pending that were entered into before the war, and they say that if the claims of the men were met the whole burden would fall upon them. At present there are several large building contracts on hand in Leeds, among them being the Infirmary extension. The labourers resumed work on August 27, leaving the dispute to be settled by the Conciliation Board.

New Central School, Haslingden.

The new Central Council School which has been opened at Haslingden is the largest elementary school, not only in the Rossendale division, but in the district which includes the adjoining Accrington division, and with the exception of schools in two or three county boroughs there are

few larger in Lancashire. There are 'girls', and infants' departments, each a separate head, and special room cookery, laundry, manual instruction science, and two assembly rooms, accommodation of the three departments for 1,210. The total cost, including is £19,800, which is just over £1 per of the inhabitants of the borough. All rooms are on the ground floor although the site is central it is a beauty. The local authorities, feeling the buildings would make an ideal military hospital, communicated with the War Office on this point, but the War Office declined the offer.

OBITUARY.

Mr. George Henry Hunt, F.R.I.B.A.

Mr. George Henry Hunt, F.R.I.B.A., Raymond Buildings, Gray's Inn, W. and Avon View House, Evesham, died, aged sixty-four, at his Evesham residence on August 17, was a son of George Hunt, architect and surveyor, Evesham, who survives him. The Mr. G. H. Hunt had, in collaboration with the late Mr. Thomas Verity, designed Nottingham Municipal Buildings, and secured the second place in the competition for the Admiralty offices and for Municipal Buildings at Richmond, Surrey. They were also selected to compete for the new War Office. Mr. G. H. Hunt was a bachelor.

Mr. T. J. Thompson, of Peterborough.

Mr. Thomas John Thompson, Peterborough, senior partner in the firm of Messrs. John Thompson & Co., the famous church builders, restorers, died recently at the age of fifty-four years. He was a member of the Town Council of Peterborough, had been mayor of the city on four occasions, one of them being the year of Queen Victoria's Diamond Jubilee. Many worthy contracts have been carried through by Mr. Thompson's firm, and one in which he had a personal share was the restoration and enlargement of Sandringham House after the fire. He was also directly concerned in restoring St. Paul's, Peterborough, Winchester, and Chester Cathedrals. Messrs. Thompson have done much work in the Eastern Midlands, and at the outbreak of war were engaged in restoration in Belgium.

Miss Anna Pendleton Schenck.

We regret to notice the death of Anna Pendleton Schenck, who, with Marcia Mead, had established in March last year the successful firm of Schenck and Mead, women architects, New York City. Private houses and model dwellings were the special study of this firm, and won a few weeks ago the first prize "neighbourhood centre" competition organised by the City Club of Chicago. They were the authors also of a model housing plan for artisans' dwellings erected in memory of the wife of President Wilson. Miss Schenck, who had studied in Paris, had previously obtained an architectural diploma from Columbia University.

Mr. Stanley E. J. Pritchard.

Mr. Stanley E. J. Pritchard (only son of Mr. Joseph Pritchard, architect), of Kilmister, who was found dead in bed, at the age of thirty-four years of age, and was a partner with his father in the firm of Pritchard & Pritchard. He was a member of the Vernon Lodge of Freemasons.

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J. B. Piranesi

ANTIQUE MARBLE ALTAR.
(From Piranesi.)

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EDITORIAL.

AS a matter of abstract interest, it may be worth while to record yet another instance of the inability of public authorities to understand the principle upon which the services of architects are remunerated. At a meeting of a certain board of guardians—their identity does not matter in the least—"the charges sent in to the committee by a firm of architects for plans of a new nurses' home and alterations at the infirmary were considered excessive, and the committee recommended that the architects be asked to reduce the amount of this account, and to base their charges on the amount of work done, and not on a proportion of the estimated cost of the proposed works if carried out." Of course the details of this case cannot be discussed, for the simple reason that we are unacquainted with them; nor would it be proper to intervene even were we perfectly familiar with every detail. But it may be useful to offer the general observation that a local authority engaging the services of an architect should make itself acquainted with the customary basis of payment for such work; while the architect, on his part, would do well not to assume that as a matter of course the authority possessed this knowledge. He would therefore be wise to come to an understanding at the outset as to the question of charges, pointing out, if necessary, that his remuneration is not a matter for bargaining or higgling, but accords with a recognised scale which is easily accessible to the authority. False delicacy often prevents the mention of terms before the work is begun; but it is infinitely better to have an understanding at the start than a misunderstanding at a later stage.

With respect to Mr. T. C. Horsfall's article in the "Town-planning Review," on housing conditions in Berlin, upon which we made a few observations in our issue of August 25, it may be noted that Mr. Horsfall, gently challenged by a leader-writer as to the justice of blaming the Kaiser for the bad housing of Berlin (the critic believing that "it is the monstrous Prussian electoral system which is at the root of all the trouble"), retorts that the blame seems to be deserved by the Kaiser for two reasons—" (1) that he, and only he, could have obtained the removal of the 'monstrous electoral system'; and (2) that the construction in 1850 by the Prussian Government of a strategic railway round Berlin proves that, notwithstanding the existence of the three-class system of election to the Berlin Town Council, the Prussian Government—that is, the Kaiser—could, by means of the construction of railways and tram lines from the centre to the circumference of Greater Berlin, have had a very large area of cheap land opened up for the erection of cheap, wholesome dwellings. There-

fore the Kaiser must be blamed for the leasehold system, and only he, could have done otherwise. Just so: plenary power involves plenary responsibility, and the Kaiser cannot be allowed to escape this condemnation. At the same time, Mr. Horsfall's opportune exposure of the shocking conditions of housing tolerated and fostered in Berlin points to a widespread corruption (or original baseness) of the German character, and confirms the conclusion that the Germans have the supreme ruler (and should suffer the retribution) they deserve. There is no satisfaction in casting blame on a mere system—the only remedy is severe chastisement of the criminal who erect and maintain it.

Rational economy, as contrasted with the extravagance of the present, is being reasserted with increasing force. A writer in the "Dundee Evening Telegraph" states the position with brevity and cogency, observing that at length "there is recognition of the fact that all our industries and trades are suffering, and that 'economising' by general stoppage of work will result in all-round shutting-down of works and unemployment. The Allies," the writer continues, "and all the navies and armies are dependent on the sinews of war, and if Britain is to devote her resources to checking industry and business serious financial trouble must result." That is the common sense of the matter; and the writer does not go far enough in expressing the opinion that it would be well to form a committee of statesmen to advise the Government to encourage Britons "to prepare for a big boom in building and in every department of trade and industry." "It is known," this writer adds, "that the Germans are preparing vast stocks of goods of many kinds for dumping in other countries. All German agents are busy canvassing the United States for particulars of goods which they can supply." This is, in effect, what Messrs. Looten and Volckerick have said in this Journal, in their series of articles (now reprinted in pamphlet form) on the reconstruction of Belgium, and there is no reasonable doubt either the accuracy of the information or the soundness of the advice that is based upon it.

Reaching a similar conclusion from somewhat different premises, a writer in the "Birmingham Post," after commenting upon the extent to which building has been brought to a standstill owing to a shortage of labour and the difficulty of obtaining steelwork for building construction, because the foundries that formerly produced it are now almost all employed in manufacturing the munitions of war, deduces the hint to such as talk lightly of putting everything and everybody to Government use, that the consequent dislocation of ordi-

stries would be felt in most unexpected ways." Is it only what is unexpected that is likely to happen. Contingencies that were clearly foreseen beginning to materialise, and one of them is mentioned by the Birmingham writer, who points for example, the serious effects upon trade—the building trade alone, but trade in general—the old premises having been pulled down to make way for new, it has been found impossible to carry on the project, and consequently the business has been ruined. Such a case is hardly worse in its effect upon the commonwealth than the abandonment of a new business enterprise through the impossibility of building it a home. Now, while naturally we are in hearty agreement that the supreme duty of the moment is the vigorous prosecution of the war, yet we cannot help feeling that even this should not be pursued with headlong heedlessness of the business interests upon which the sinews of the war ultimately depend. And surely the Government, fully occupied as it is with militant matters, should leave the business community to look after its own interests, and the business community will be wise to do so—tactfully, sympathetically, and always with due regard to national rather than sectional interests, advising the Government as occasion may

... bronze memorial to Sir W. S. Gilbert that has been affixed to one of the pylons on the Victoria Embankment does not reconcile us to the presumed fact that more ambitious monument which was to have matched the memorial to Sir Arthur Sullivan in the garden near the Savoy. Sir George Frampton, in his somewhat flat profile portrait of Gilbert, has caught very well the rather complex expression of gravity and *malice* that was habitual to this unique artist, of whom it is very happily recorded in the monument, in excellent Roman capitals, that "his foe was Folly and his weapon Wit;" but the tiny little doll-like figures representing respectively Tragedy and Comedy stand out rather extraneously in both the moral and the physical sense. Visually modelled, they are in themselves only too interesting, and of one of them the relevancy cannot be denied. "Comedy," with her jester's gibbering mouth, is perfectly appropriate to Gilbert's peculiar humour, but "Tragedy" seems almost a Gilbertian parody of it. True, in some of his earlier and middle plays—"Dan'l Druce," for instance—he struck a tragic chord; and he even wrote one bearing the title "Comedy and Tragedy"; but in popular mind he is so exclusively associated with his opera that the introduction of the figure of "Tragedy" seems to lack any justification beyond the desire of artistic emergency. Moreover, the theme is so fully trite; and, at best, "Tragedy" and "Comedy" are but commonplaces, no more appropriate to Gilbert than to any other playwright. If indeed images were necessary "Patience" with her milking-stool and "Jack Point" with his rattle wand would have served this turn equally well, and would have implied that the author (and, incidentally, the sculptor) was capable of creating something.

... to the manner in which the memorial is stuck to the pylon it is impossible not to feel aggrieved. There is no visible means of support, and looks as if it had no earthly right to be there—it is as casual and intrusive a deposit as any one of the hundreds of recruiting posters that fill up most of the remaining wall space on the Embankment. Wall tablets are certainly to show some connection with and justify the wall that supports them; but the Gilbert memorial, being of bronze, certainly does not convey the idea of being integral or in any way

related to the granite, from which, one imagines (of course quite gratuitously, but nevertheless painfully) it must fall off as soon as the paste perishes! There ought to be, we repeat, some visible prop and stay, some console or bracket which, besides giving assurance of stability, could have been turned to decorative account. In this respect the memorial a few score of yards to the west of it, the framed head of Sir Joseph Bazalgette, C.B., "Engineer of the London Main Drainage System and of this Embankment," is much more conformable to reason. But it is really not proper that these granite pylons should be faced, or defaced, with miscellaneous memorial tablets. If they are to be decorated at all—and indeed they look best left severely unadorned—it should be with noble groups of statuary surmounting them. For our part, we would rather see them stuck over with recruiting posters than with bronze tablets. In the case of the former, one could have much more confidence in the adequacy of the adhesive.

Precisely how master-builders qualify for their high calling has been always an esoteric mystery. If they are not conspicuously zealous in availing themselves of the abundant and variegated means of technical training, that is because their needs have not been specifically met. Such courses of instruction as have been open to them have given them more than they require in some directions, but in other respects have sent them empty away. Building operations have now become so complex, so highly technical, not to say scientific, that mere mother-wit no longer serves the master-builder's turn. He is beginning to feel the need for systematic training, and we learn with more gratification than surprise that a course has been arranged at Sheffield University, in conjunction with the local master builders' association, to meet the requirements of students who are working with the object of becoming master builders, or of taking other important positions in building businesses. Building being the largest of our synthetic industries, it is of immense importance to devote trained intelligence to it in every department. It might be worth the while of the schools of architecture to consider the hard case of the master builder.

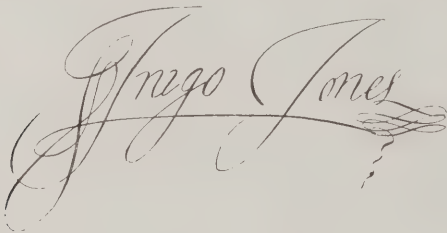
Among the several Russian institutions that have been of late held up to admiration is the system of heating an entire house by means of one fire. "The one stove that heats every room in the house is usually placed at the back of the hall, and has connecting pipes to all the apartments in the building." Advocates of the system extol "the comfort of having all rooms properly warmed without separate fires," and point to the consequent saving of labour and the economy of fuel that must result from having only one fire instead of several. They go even further, and dilate on the advantages of "chimneyless houses"; for under the Russian system no chimneys are required, and Russophile enthusiasts are said to have procured designs for the erection of chimneyless houses in a London suburb, and to be anticipating the time "when a house with a chimney will be considered an antiquated building." All this is very interesting, but, like the German plan of campaign, it leaves out of account the vital factor of the psychology of nations. All efforts—and they have been many and persistent—to rob the British housewife of her cheerful open grate have been hitherto heavily defeated, and no better fortune can be anticipated for the Russian system, no matter how incontestable its merits on the score of convenience and economy. And a chimneyless house would not only be monstrous: it would be unhygienic.

HERE AND THERE.

SOME people are quite insensitive to style in handwriting—or in anything else. There is the celebrated case of the *Innocents Abroad*. Shown the autograph of Christopher Columbus, the *Innocents* "looked indifferent—unconcerned." The doctor examined the document very deliberately, during a painful pause. Then he said, without any show of interest, 'Ah—what—what did you say was the name of the party who wrote this?' 'Ze great Christopher Colombo.' 'Ah—did he write it himself—or—how?' 'He write it himself!' Then the doctor laid the document down and said—'Why, I have seen boys in America only fourteen years old that could write better than that.' 'But zis is ze great Christo——' "I don't care who it is! It's the worst writing I ever saw. . . . If you have got any specimens of penmanship of real merit, trot them out!"

* * * *

On the other hand there are those who collect autographs. What is worse, there are subtle persons who pretend to find character in handwriting. Countless books on this subject have been written, and their authors have developed their uncanny skill to so delicate a degree that they can tell, merely from a glance at his handwriting, that Tarquin was proud, Cæsar was bald, and the Duke of Wellington had a Roman nose. If the three autographs here shown were to be set before these cunning diviners

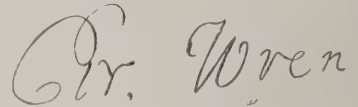


we should no doubt be told that the signature of Inigo Jones reveals, in the superfluous flourishes, especially in the initial I, superabundant energy and egregious vanity, extreme irascibility and a strong disposition towards cross-purposes as seen in the line cutting off the tails of the descenders, which same line serves also to denote a love of balance—especially at his bankers, our graphologist might add, as indicated by the tendency of the line towards the cheque ornament elaborated at the end of the signature. Graphologists would say that this flourish denotes inordinate self-esteem—pride, as well as an aggressive temper, is shown in the size and shape of the capitals. Ambition is denoted by the upward slope of the signature, which, it will be noted, begins with confusion and ends in decoration; this being the normal course in planning and completing a building. Our graphologist would therefore venture the inference that Inigo Jones was an architect. Moreover, since the greatest of all the Joneses laid so strong a stress on his capitals, the first of which is Corinthian and the other Doric, it is obvious that he was of a classical bent. Alternatively, the first initial may be regarded as a preliminary sketch of the maze at Hampton Court. His linking-up of his beginning and his ending comes of his apprenticeship to a joiner; and in the interval between these periods there are distinct traces of Italian travel and the Palladian style.

* * * *

A serious graphologist would tell us that the W in Wren shows sense of form and also ability to organise; that the separation of some letters and the ligature of others show at once an analytical, a

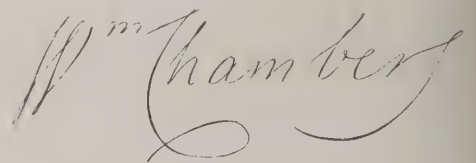
synthetic, and a mathematical mind, the writer plainly perceiving that two and two make four, notwithstanding that two are separated by two; that the letters are joined; and the large and eccentric capital W is a proof that the writer possessed a powerful imaginative faculty, which is usually emphasised



the handwriting by illegibility of the character, the author's thronging ideas hurrying him to hasty scribbling. That Wren overcame this tendency, and remained legible, is convincing evidence of the evenness of his temper, the candour of his disposition, and the firmness of his mind. In abating somewhat on this assessment, I must confess to dubiety about his "Chr." There is too much of the C and too little of the h to satisfy a graphologist's regard for just proportion. Perhaps there is too much h there, and its confusion with the C may denude an eye to economy of materials. From the magnitude and rotundity of the initial C it may be inferred that the architect liked to begin by designing the tower or the dome, to which the rest of the structure was made subsidiary. It will be noticed that he tried to cut down expenses more and more drastically as the work proceeded, until in the final letter the line dwindle painfully. Anyone who prefers to do so can regard the signature as a study in linear perspective; but the real explanation is, according to the graphologist, that "handwriting which tends to alter in size, with letters irregular but running together in a good sequence, indicates imagination." In Wren's case, it is imagination tempered with mathematics—a rare but beneficent blend.

* * * *

That Chambers wrote rather a commonplace office-boy sort of hand is perhaps a consequence of his early devotion to commerce. Perhaps here comes into play. His father, it must not be forgotten, was a Yorkshire merchant living in Sweden, but the younger Chambers, although born in Stockholm, was educated in Yorkshire, and it must have been at Ripon that he acquired his legible but lovely hand. If we had not known his early devotion to Palladio (for his mild flirtations with Chinese architecture do not count), we should have been inclined to suspect innate Gothic proclivities from his showy initial W; and for the rest of it, with its vulgar superfluity in the initial and final letters and the copy-book characterlessness of the intermediaries, one gets an instant impression of a facility that is said to be inimical to art. That would be an absurdly false conclusion; and indeed a graphologist would protest that "a softly rounded final indicates a gentleness of manner and a love of order and form"; which things happen to be



perfectly true of Chambers. It was to his very agreeable manners that he owed his appointment as an architect, his amiability and address quite captivating the young prince who afterwards became George the Third. But anyone who assumed that on their face-value, those flourishes fairly represented Chambers's ideas of embellishment would have deemed him negligible as an artist in decoration.



SMALL HOUSES OF THE LATE GEORGIAN PERIOD (SERIES II.). I.—PORCH, "THE LIMES," KINGSTON-ON-THAMES.

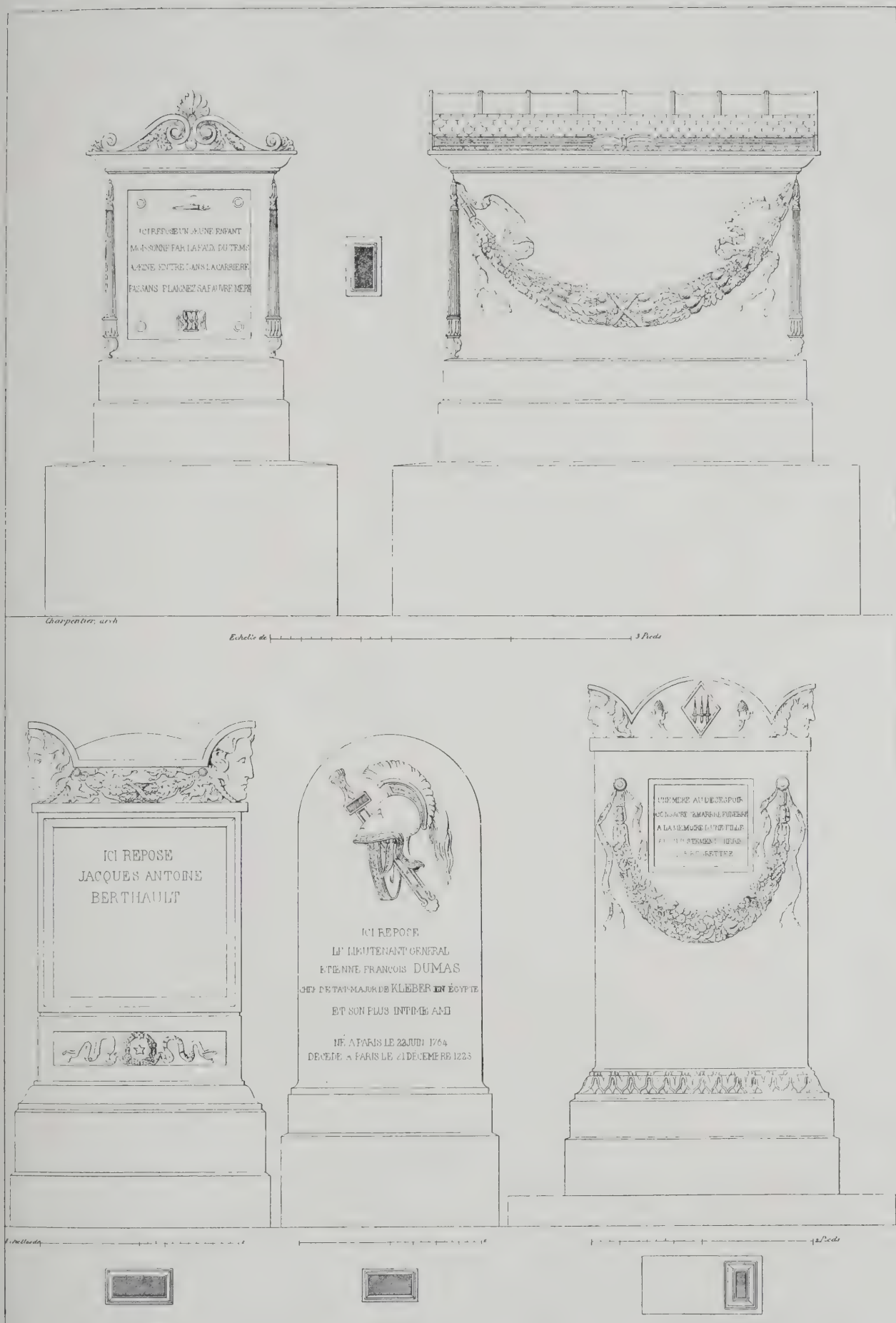
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STUDENTS' DRAWINGS. XLIX.—DESIGN FOR A SHOP FRONT.

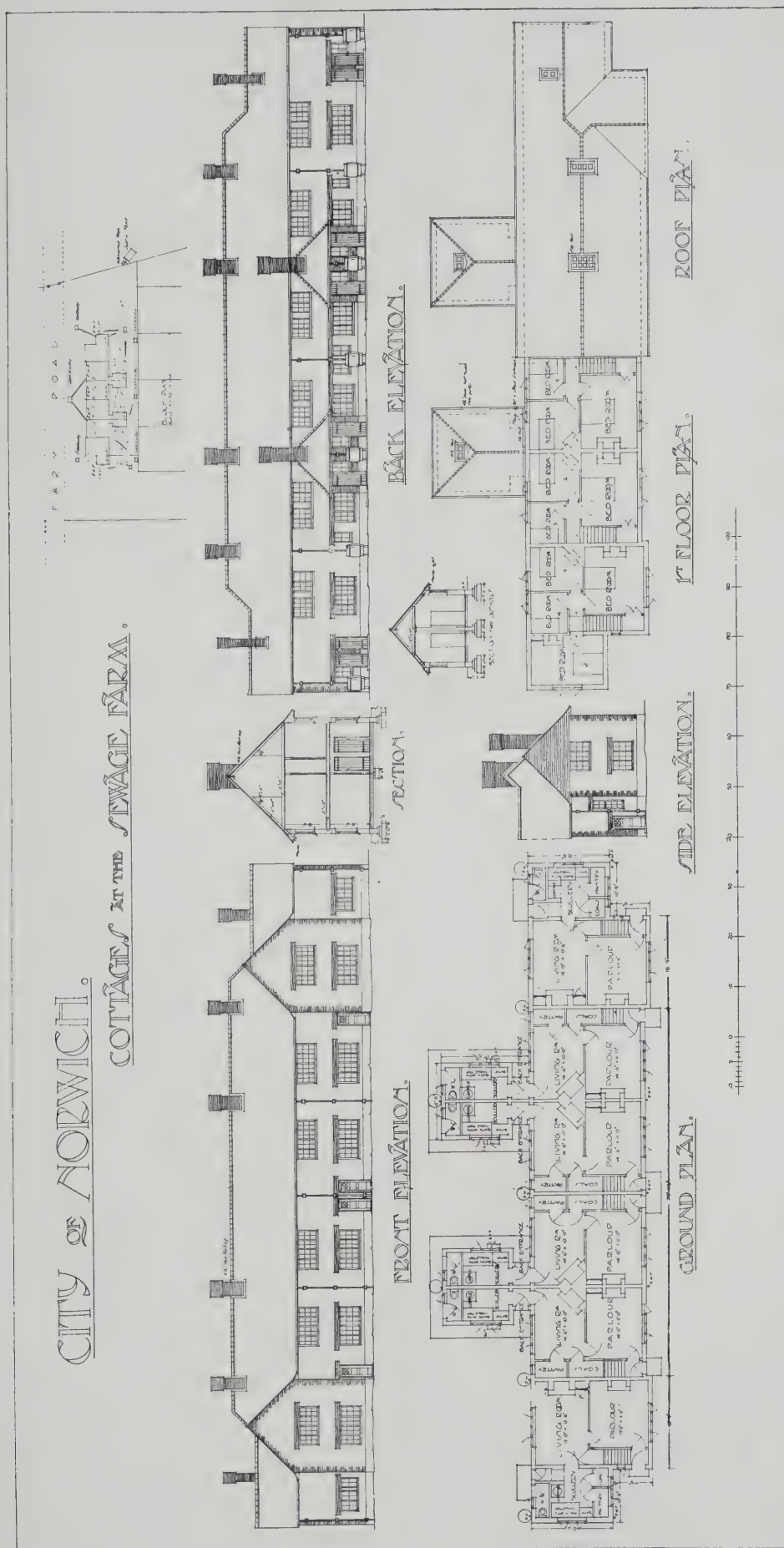
BY ALFRED B. B. JOPLING.

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FRENCH MONUMENTS. XXI.—FOUR MONUMENTS IN CEMETERY OF PÈRE LACHAISE, PARIS.

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CITY OF NORWICH.

COTTAGES AT THE STAGE FARM.

MODERN DOMESTIC ARCHITECTURE (SERIES II.). XXV.—COTTAGES AT WHITTINGHAM FARM, NORWICH.

ARTHUR E. COLLINS, M.Inst.C.E., CITY ENGINEER.

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Photo: Thomas Lewis, Ltd.

MODERN DOMESTIC ARCHITECTURE (SERIES II.). XXIV.—COTTAGES AT WHITLINGHAM FARM, NORWICH.

ARTHUR E. COLLINS, M.Inst.C.E., CITY ENGINEER.

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design, and that conclusion would have been
om just, although it is very true that his skill
t department is not as yet so well recognised
deserves to be. If he was not a really great
ative artist, he was at least a very respectable

characteristic that these three autographs have
mon is supreme legibility, which, after all, is
y commendable quality in handwriting. In
day, when the writing master was held in
r, and when a "fine Roman hand" was
ded as a gentlemanly accomplishment, the
hat a writer could do was to be legible. Later,
and clerkly hand came to be considered a mark
eriority—a counting-house hireling's sordid
—and this snobbish notion was carried to
extremes that men deliberately scrawled
ipherably in order to be thought genteel, or at
uncommercial. For this reason, perhaps,
g was deliberately omitted from the cur-
of middle-class schools (where it is commonly
ted even unto this day), and was taught only
ommercial academies," and later, of course,
Board Schools, into which some sublime idiot
ted the intensely stupid and eminently
an notion of forming letters to word of
and—"handwriting by dictation," on
user's system, it was called. This muddle-
d German genius, having reduced the written
cters to their component pothooks and
rs, imposed on reluctant youth a synthesis of
elements. When the teacher dictated
ble-curve, straight line, two heights, link,"
upil who followed this advice faithfully and
nowledge found that the assembled elements
ted to the letter d. "Straight line, height-
half, link, bar," was short for letter t. And
xcruciating nonsense was solemnly foisted
the elementary schools, together with a lot
er insanely conceived rubbish imported from
a; where, indeed, they write the most
sedlv crabbed hieroglyphics that ever baffled
standing and destroyed eyesight.

were asked whether I believe that character
e inferred from handwriting, I should reply
ny opinion upon this point is neither here nor
Character most certainly is inferred—con-
ly or unconsciously, and rightly or wrongly.
ay rate, handwriting is so fascinating that
erable books about it have been made; among
being one in which Mr. Lewis F. Day and Mr.
G. Smith collected specimens of the hand-
g of the sixteenth to the eighteenth centuries.
ntly the degenerate scrawling of later date
ot worth their attention. An eminent publisher
late C. Kegan Paul—once confessed, in my
g, at a public meeting, that he could judge
a glance at the handwriting of an author
er there was ability in the work; long experi-
aving convinced him of the existence of a dis-
y literary hand, which he could recognise on
There are also distinctive legal, clerical,
al, and military hands. Also there is the
y or scholastic hand. Perhaps there is also a
ctively architectural hand. If there is, there
be some advantage in deliberately cultivating
ce one might occasionally stand or fall by it
nose who, like the publisher, judge the content
superficies. It is not fair to do it, but it is
As Lord Chesterfield says: "Take it for
ed that by far the greatest part of mankind
r analyse nor search to the bottom; they are
ble of penetrating deeper than the surface."
unfortunately, this worldly-wise observation neither

commends good handwriting nor condemns that
which is bad. For the client deems that as the man
prosperous the handwriting deteriorates: the curate
becomes bishop, or the junior counsel an eminent
K.C., the architectural assistant a prosperous prin-
cipal,—developing *ipso facto* an abominable hand.
In business communications this phenomenon was
formerly very inconvenient to both parties. The
client hated the characterless script of the hireling
scribe, but could not read the scrawl of the prin-
cipal. Hence arose much exasperation on both sides.
That is the real reason why the type-writing
machine was invented. Only the architect's signa-
ture need now be written, and it may be quite
imposingly illegible if its author is careful to have
the key to it properly embossed at the head of his
paper. I trust that this does not look like satire. It
is intended as a really serious practical hint, which
ought not to be necessary, but is.

NEMO.

THE PLATES.

Porch at Kingston-on-Thames.

THERE can be no question that in Georgian days,
and until considerably later, folk had a nice taste
in trellis porches. The porch from "The
Limes," Kingston-on-Thames, is a good example. It
is carefully designed and of good craftsmanship. The
delicately reeded uprights and the Greek fret in the
frieze are pleasant details in a very happy piece of
composition.

Design for a Shop-front.

Doubtless we have to thank the Regent's Quadrant
controversy for the selection of shop-front design as
one of the subjects set in the R.I.B.A. examinations.
It cannot be said that the solution of the problem
worked out by Mr. Alfred B. B. Jopling, of the
Liverpool School of Architecture, errs on the side of
reticence; but while he has made too lavish a use of
his resources, it must be admitted that he is very
dexterous in the application, and the net effect is a
degree of elegant refinement that is not inappropriate
to an "International Art Publishing Company";
whose business, however, would require more light
than the author has accorded it. Certainly the trader
would clamour for more window-space; but to give it
him would in this instance destroy the organic unity of
a decidedly interesting design.

Père Lachaise Monuments.

Unmistakably classical as they are in inspiration,
these monuments are nevertheless intensely French
in their elegance and their *netteté*. These, and most
others in this series, afford an excellent study in
nicety of proportion and of decorum in the use of
ornament. They show also, very convincingly, that
heaviness and lugubriousness are not essential to
the æsthetic expression of tender reverence for the
dead. In this matter the two races tend to opposite
extremes, and comparison may serve to check
excess in either direction. The Roman helmet and
sword on the tomb of General Dumas might easily
have been discarded in favour of the general's
actual accoutrements; but the sculptor understood
the principle that has been a commonplace since
Reynolds mentioned it in his tenth discourse:
"Sculpture is formal, regular, and austere; disdains
all familiar objects as incompatible with its dig-
nity."

Cottages at Whittingham Farm, Norwich.

The cottages shown were designed by Mr. Arthur
E. Collins, M.Inst.C.E., City Engineer, Norwich, and
built by contract under him, at a total cost of

£1,350. They are situated on the Corporation Sewage Farm at Whitlingham.

The block comprises six tenements, each containing a parlour, living room, scullery, coal house, pantry and w.c. on the ground floor and three bedrooms on the first floor. The bath is placed in the scullery and covered with a movable table top. Each cottage is provided with a small tool house, also large front and back gardens. The two end cottages contain four bedrooms.

The walls are built of concrete blocks 2 ft. 8 in. by 1 ft. 4 in. by 4½ in. thick, the external walls being hollow, comprising two 4½ in. walls with a 2¼ in. cavity. The party walls are 9 in., and the partition walls 4½ in. thick; all constructed of concrete blocks. Red brick quoins are built at angles and the lintels are constructed of layers of red tiles in cement.

The concrete blocks were made on the site by the Corporation in a "Winget" concrete block-making machine, and were supplied free to the contractor, their value not being included in the above £1,350.

The roof is covered with Norfolk sand-faced pantiles on reeds. Solid floors are provided to ground floor composed of a 3 in. broken brick foundation, a 2 in. cement concrete layer, and 1 in. breeze concrete layer, and 1 in. boards bedded on pitch and nailed thereto.

Water supply is laid on, and the sewage is treated on the farm.

The cottages are let to the farm employees at a uniform rent of 2s. each per week.

Mouldings and Enrichments from Manchester Old Town Hall.

Mr. Gordon Hemm's measured drawings of mouldings and enrichments to the entrance hall of Manchester Old Town Hall are chiefly valuable as preserving for us the contour and proportions of the mouldings, the "enrichments" being merely common form. Indication of the positions which Goodwin chose them to occupy is not without interest, and would, in any case, be essential to completeness in the drawings of the fine old hall.

Details of Dining-room Mantel, etc.

This is another of Mr. Walter McQuade's elaborately wrought working drawings, which not only show with extreme clearness all necessary details, but produce an effect that is almost pictorial. To handle them and to work to them must be a real pleasure; and the philosophy of the thing seems to be that the character of the drawing, whether it be slovenly or whether it be elegant, is indubitably reflected in the resultant work, in which, as William Morris used to hold, the mood of the craftsman is always strongly reflected. Certainly the freedom from the worry of puzzling out a slovenly draughtsman's intentions must leave the craftsman more energy, to say nothing of more joyousness, for expenditure on the actual work of his hands.

CORRESPONDENCE.

The Drapers' Hall and Robert Adam.
To the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.

SIRS,—As I have given some attention to the architecture of Robert Adam and his brethren, perhaps you will not mind my pointing out that there appears to be no authority for the statement that he refronted the hall of the Drapers' Company. Some time ago I saw this statement in an article on the Company in "The Times," and called on the Secretary, who kindly informed me that there was no such record known to them. As a matter of fact I expect to show in a forthcoming book that Robert Adam had very little direct relation with work in the City,

which during his lifetime remained in the faithful to the earlier tradition of Wren. Perhaps some of your readers may be interested, and of course some fresh fact might come to light.

ARTHUR T. BOLTON
Victoria Mansions, 28, Victoria Street,
minster S.W. September 2, 1915.

[In our brief reference to the Drapers' Hall statement was not exactly as Mr. Bolton puts it, that the hall, having been partly destroyed in 1774, was "partly rebuilt by the late Robert Adam," and we added: "It was refronted in 1811 by Herbert Williams." We are, however, very glad to get Mr. Bolton's interesting note. He may perhaps like to know that it is John Timbs, F.R.S., who ("Curiosities of London") associates the brothers Adam with the Drapers' Hall, but of course, the statement may not have originated with him.—EDS. A. and B. J.]

National Service for City Companies. To the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.

SIRS,—Your remark, in the Editorial pages of the issue of September 1, on the comparative uselessness of the halls of the City companies, deserves, in my opinion, the closest attention at a moment when "Economy" is the watchword, and when it is obviously necessary to the national welfare to bring into play every potential or dynamic, that is susceptible of application for our country's good.

Your observation on the unemployment of the halls suggests at once the pertinent question, in these times of stir and stress, should they not be employed? Knowing well the exemplary patriotism and the splendid patriotism of the City of London, I am surprised to think—perhaps, indeed, I am wrong in supposing it; I am sure I hope I am—that the halls have not been offered to the Government for national service—as hospitals, barracks, drill-houses, offices to accommodate the greatly augmented staffs of the various Government Departments. Such employment would be a glorious justification of their existence, and would prevent wastage that, in times like these, is in itself very nearly criminal.

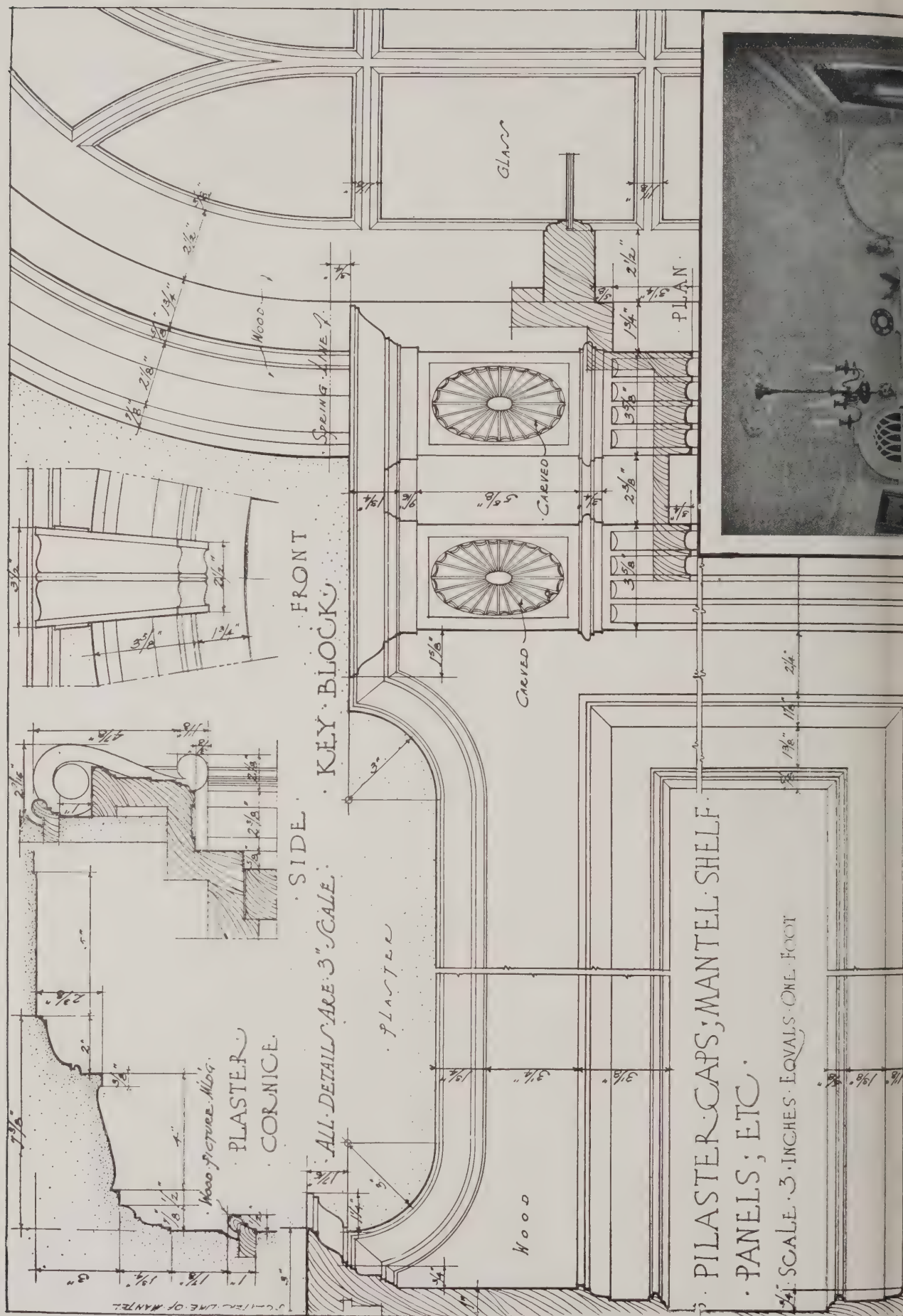
But temporary service—war service—is not what I had chiefly in mind when it occurred to me to express a little on your very useful remark. The thought flashed across my mind that originally these halls were never have been built with the intention of leaving them idle for eleven-twelfths of the year, and so futilely busy for the remainder of the time. I doubt that they were built and endowed with the object of rendering good service to the trades which they nominally represent. With changing conditions the halls appear to have lost their most important functions.

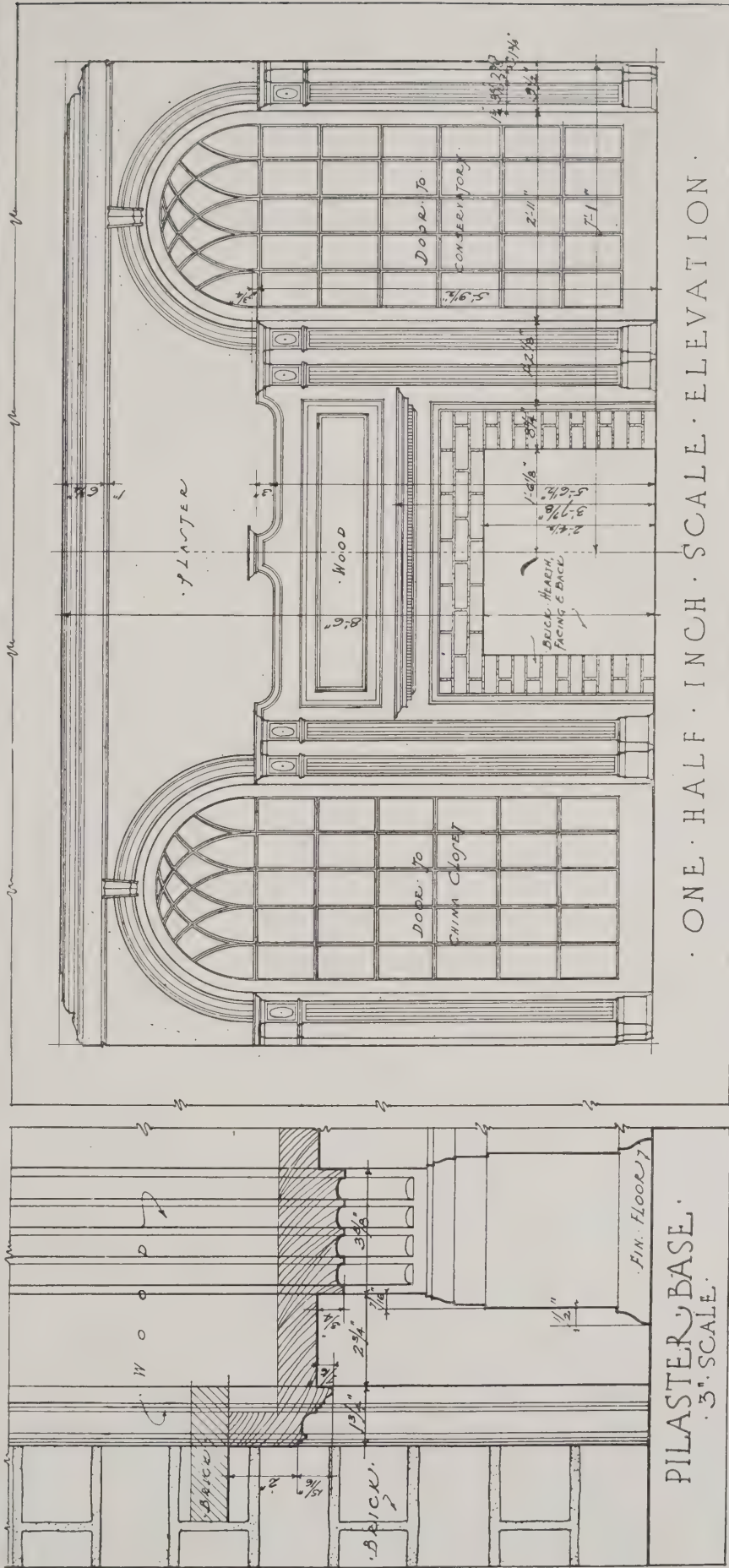
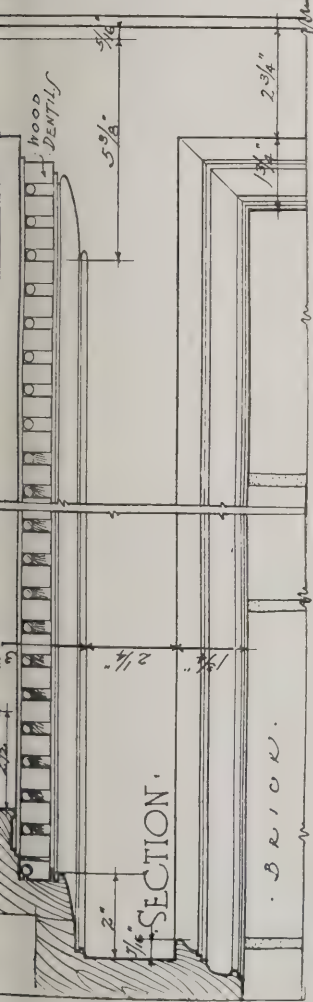
Full activity could, I think, be restored to them greatly to the national benefit. In your notes to which I have made reference above, you give a valuable indication as to the use to which they might be put. Your mention of the lectures on architectural and cognate subjects that are given year after year in the hall of the Worshipful Company of Carpenters. Such service to industry could be enormously extended. I am sure the City and Guilds of London that the nation is indebted for what it possesses of organised technical education. Our country, in the fierce business competition that will follow the war, will be in sore need of all the technical education it can get. Well and good. Let the City companies devote their halls to this purpose—not independently, but as units of a co-ordinated and truly national system of technical education without which Great Britain must decline to an inferior position among the nations of the world.



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WORKING DRAWINGS BY WELL-KNOWN ARCHITECTS (SERIES II.). XI.—DINING-ROOM MANTEL AND DOORWAYS, HOUSE AT NUTLEY, NEW JERSEY.

DRAWN BY WALTER McQUADE, ARMSTRONG AND DE GELLEKE ARCHITECTS.

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JOHN GOLDICUTT, ARCHITECT AND AUTHOR.

MENTION of the Fishmongers' Hall, London Bridge, in the Journal of September 1st, recalls an interesting reference, some few years back in the "Architectural Review," to the plan made for this hall by John Goldicutt, whose design for the river front is shown on the next page. The design is in striking contrast with the austerity of the accepted design, which is by Henry Roberts. The annals of English architectural history contains no more interesting period than the last days of the last century; yet it is surprising how little the period is understood or appreciated. Some of the great architects of the later years of the previous century were at this date in full vigour, some continuing the older traditions, and some spreading the cult of Greek refinement. Sir John Soane was delivering his lectures at the Royal Academy, John Flaxman led the school of English sculptors, while Sir Thomas Lawrence headed the school of painters. The Earl of Elgin, amidst a storm of hostile criticism from the dilettanti, and the enthusiasm of Byron, secured for England the Parthenon marbles which to-day bear his name. The arts, led by Thomas Hope, still flourished in considerable force, and directed their energies and efforts for the advancement of taste. With the opening up of the Continent after the termination of the Napoleonic wars there occurred

a simultaneous rush of artists of every nationality to Paris to view the great art collection at the Louvre, the fruit of Napoleon's spoliations. The richest treasures in the collection were about to be returned to the countries which originally owned them, and interest and speculation as to their intrinsic artistic value was widespread. Then occurred the reaction of French influence on English methods of design, with a corresponding increase of the eclectic principles for which the French are justly famed. The Empire Style of Percier and Fontaine gained many followers in England; Durand's famous volume, "Recueil et parallèle des Edifices," which had first been published in 1800, was eagerly studied, more especially for the fine examples of academic planning it illustrated. Jean Charles Krafft produced his useful volumes dealing with various architectural subjects, a few with the text in French, German, and English. In brief, the wars which had divided nations and dispersed the practice of the arts in Europe, with the conclusion of peace gave place to a great cosmopolitan movement.

In England the growing interest in mediæval architecture caused by the rise of the Romantic school of literature led to a false interpretation of architectural problems. Architects who were masters at Classic design essayed buildings in the



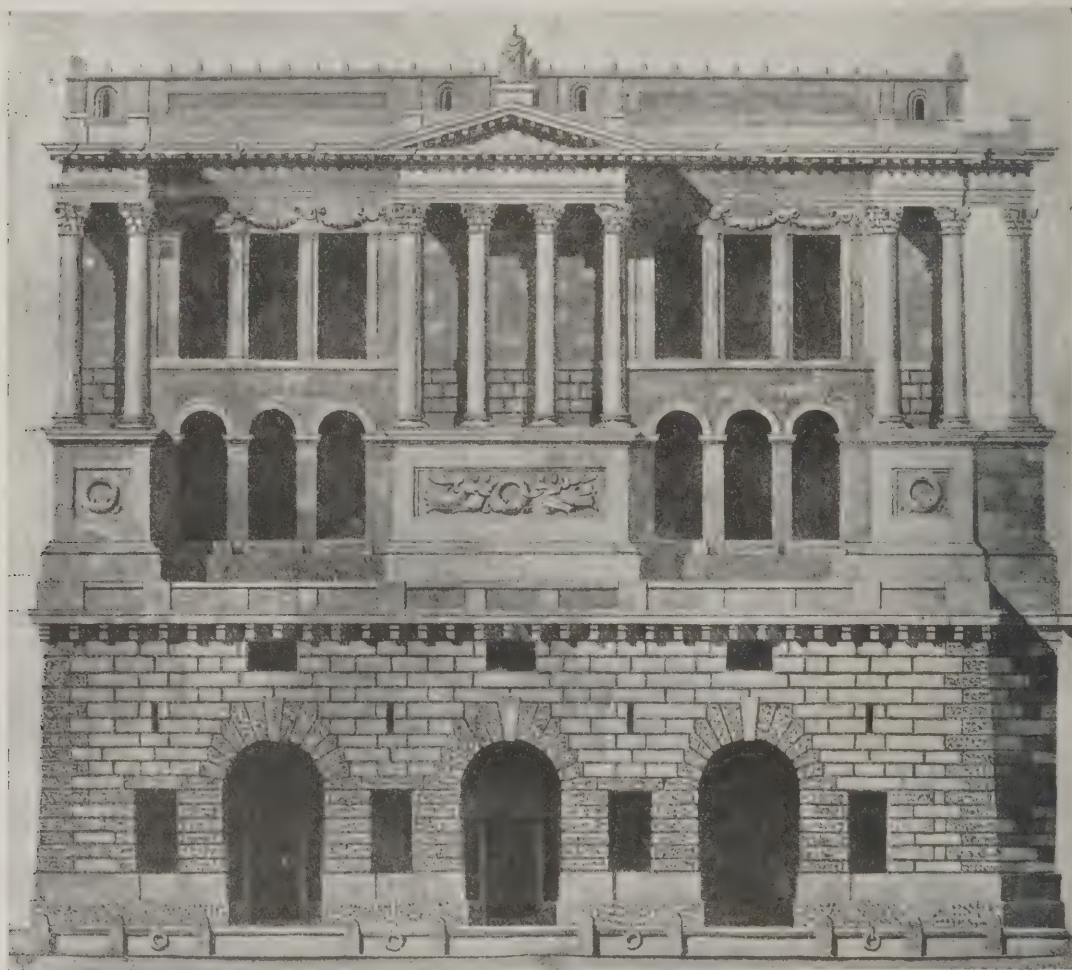
Hall and Staircase

DESIGN FOR A VILLA IN THE ITALIAN STYLE BY GOLDICUTT.

so-called Gothic style with results ineffective and disastrous. Nevertheless the Classic school proceeded on lines which were scholarly and refined, and, in spite of a studied pedantry on the part of certain architects who were obsessed with the idea of reproducing Classic temples, many noteworthy buildings were evolved. To this period belong the great town-planning schemes coincident with the epoch of the Regency. Nash had completed the development of Regent's Park, and was engaged in the creation of the great thoroughfare, Regent Street, which formed the main artery from the new residential district to the Houses of Parliament. The evolution of the seaside towns on the South

included very ambitious projects. At that time Thomas Donaldson, then quite a young man, was president to the society.

After Goldicutt had spent some years studying hard in this manner, his father decided that he should enjoy the advantage of study abroad, accordingly, in 1815, he entered the *atelier* in Paris of Achille Leclère, where he competed for monthly prizes in the Académie des Beaux-Arts. His predilection for colour led him to extensive travels to Italy, and for nearly four years he spent his time in that country collecting materials for the books he afterwards published. While at Rome he made a painstaking study of the trans-



GOLDICUTT'S DESIGN FOR THE RIVER FRONT OF FISHMONGERS' HALL.

Coast was undertaken, and altogether the building epoch throughout the United Kingdom was without parallel.

The professional career of the talented John Goldicutt (1793-1842) commenced during the first decade of the nineteenth century, when he entered the office of Henry Hakewill as an articled pupil. The latter had been a pupil of John Yenn, R.A., and although his early training had been obtained in an office noted for the rigour of its Classic leanings, Hakewill practised both Gothic and Classic design. While still a pupil with Hakewill, Goldicutt gained admission to the schools of the Royal Academy and competed for the Silver Medal on two occasions, preparing measured drawings of the façade of the East India House and the Mansion House, for which he obtained the Silver Medal in 1814. While still a student at the Royal Academy schools he joined the Architectural Students' Society, which consisted of young men who met every fortnight in order to work out set problems; some of the subjects

section of St. Peter's, showing the complete decorative scheme in colour. This drawing, which is now in the R.I.B.A. collection, was submitted to the Pope, whose admiration was so aroused that he presented the artist with a gold medallion in testimony of his skill.

Returning to England in 1819, Goldicutt commenced active practice as an architect, and soon found reason of the prevailing building activity, for the immediate scope for his talent. By nature he was extremely ambitious, and rarely missed an opportunity of entering any public competition that was advertised. In 1820 he competed for the design of the New General Post Office and obtained the premium, the building being afterwards carried out by Sir Robert Smirke. From the slight drawing of this design which is preserved in the Institution Library, it is possible to form some idea of the original treatment of a Classic theme. In 1821 he entered another competition for the new building at King's College, Cambridge, and again in 18

eted for the Middlesex Lunatic Asylum and d a premium.

the occasion of the competition advertised in for the new Fishmongers' Hall at London e, Goldicutt, as mentioned above, entered the and although he was not successful, he evolved markably original design. The competition won by Henry Roberts, who executed the pre-building. Practically his last competition for e public building was undertaken in 1839, he submitted designs for the Royal Exchange, in 1841 he competed for the Nelson Monument. Completed structures include a casino on the made at Worthing, distinguished for its colonnades; alterations to White's Club House, St. James's Street; and, with J. Gutch, the church of St. James's, Paddington, which was completed in at a cost of £9,600.

is somewhat remarkable that a man possessing facility for design and such extraordinary ability for colour schemes should not have been presented by a greater number of executed designs. Probably his surveyorship to the dis- of St. Clement Danes occupied a considerable n of his time, and it is certain that he gave a deal of personal attention to the production is architectural publications. His masterly as a draughtsman is evidenced in the volume etches and designs now in the collection of the Institute of British Architects. Many of drawings are tinted with slight washes of , which greatly enhance the effect, as well as ing the subject more intelligible, and for this n they are of special interest to the student. Careful studies of Roman and Pompeian build- are comprised in a series of delicate and ate drawings, which reflect the precision of ind that collected them. In the course of his e, he visited Agrigentum, and prepared ured sketches and full-size details of the Greek le of Concord, and in other parts of Italy he ually assiduous. It was one of Goldicutt's teristics that he never allowed himself to be satisfied with what appeared an easy solution architectural problem. He was primarily a ist, and took extreme pains to ensure that his ed buildings should appear correct not only in , but in the impression their colour effect would n the eye of the beholder.

iewing the series of splendid designs he made rious buildings which are contained in the ite volume, it is impossible to quite repress eling that Goldicutt was a man following in ootsteps of Cockerell, but lacking the latter's nt opportunities. His drawings are generally to a very minute scale, but the detail is per- legible; and if Turner could depict fifty miles dscape on a sheet of paper four inches square, pparent that Goldicutt had no difficulty in ing a monumental building in the same space. g the designs which are of more than ordinary st are those prepared in 1830 for the Fish- ers' Hall competition. A delicate thumb-nail sketch shows the first idea of the grouping was afterwards worked out in a series of scale gs. This scheme was grandiose in the ative qualities of its composition, and remark- or the play of light and shade suggested; the ction between the constituent masses of the e being held together by a charmingly designed c *Niche*; the treatment of the high basement, was intended to rise sheer above the quay eeing reminiscent of the basement storeys ated with the palaces of Florence. Another dicutt's designs which demands attention is tended for the church of St. Mark, North y Street, which was eventually carried out by -Deering. This scheme is chiefly noteworthy

for the ingenuity of the plan. Goldicutt's design for a monument to Lord Nelson, which he prepared in 1841, caused a good deal of adverse criticism, yet the small sketch depicting this feature shows a scheme thoroughly sane in conception. This design, however, is completely eclipsed by the fine dual monument projected to the memory of Nelson and Wellington, which was prepared as an alterna- tive scheme. In the drawings of the latter there exists a strong echo of the influence of Piranesi's fanciful conceptions; and it proves that the famous etchings were consulted by every architect of the Classic school.

Like other architects, Goldicutt sometimes allowed his excess of zeal to lead him to commit deviations from the normal course. In this respect his design for the London Amphitheatre, which was practically a copy of the Coliseum at Rome, did not prove an exception.

Besides acting as one of the first two honorary secretaries of the Institute of British Architects, between the year 1834 and 1836 he originated the presentation of a testimonial to Sir John Soane, and directed the decoration of the Freemasons' Hall on the occasion of the festival in March, 1835.

Goldicutt was elected a member of the Academy of St. Luke at Rome before 1818, and became a member of the Academy of Fine Arts at Naples. His published works include: "Antiquities of Sicily," folio, 1819; "Specimens of Ancient Decorations from Pompeii," 1825; and "Heriot's Hospital, Edinburgh," 1826, most of the plates being etched by himself. He closed an eventful career at the early age of forty-nine, and if no other evidence of his personality and attainments were forthcoming, the collection of his brilliant drawings would more than suffice to maintain his reputation. No man can quite emancipate his artistic ideas from the conditions of the period in which he works; sub- consciously he is bound to reflect the moving fashions of the time. During the early years of Goldicutt's career the Greek phase held its sway over the Classic school, which in turn was extended to include the Italian motif, and a fresh cycle of architectural development commenced. The deeply implanted desire to understand the meaning of architecture in its fullest sense led artists to under- take voyages of discovery; the austere beauty of Hellenic art, overpowering in its matchless sym- metry of form, acted as a spur to a tired and jaded world. Inspiration was found, but could not always be successfully interpreted to accord with modern sentiment; hence the breaking down of the barriers of prejudice in favour of catholicity of taste. With far-seeing wisdom the artists sought the spirit animating the art of the old Classic world, that sheer joyousness of living, engendered by the con- ditions of Pagan life, and they blended the finesse of Greek art with the modern character of the Italian motif. Professor Cockerell and Sir Charles Barry succeeded Sir John Soane, Sir Robert Smirke, and the Inwoods. The Gothic school gained adhe- rents and proceeded side by side with the Classic until the ineffective battle of the styles gave neither side the victory. The English architects of the first quarter of the nineteenth century who formed the Classic school bestowed their attention on the continuance of a sound tradition, which they aug- mented by their personal labours in the Classic fields of Italy and Greece, and their untiring energies resulted in a series of magnificent buildings, the importance of which is gradually being realised.

We are apt to value less what we have got than what we might have had; but, after making due allowance for this wayward proclivity of the human mind, we are still inclined to think that the Worshipful Company of Fishmongers did not choose quite wisely when they preferred Roberts to Goldicutt.

A COLONIAL VIEW OF ARCHITECTURAL COMPETITIONS.*

BY F. K. KENDALL, F.R.I.B.A., President of the Cape Institute of Architects.

IN the abstract, the ostensible object of a competition is, of course, to select the best and most suitable architect to carry out a certain building, but very few competitions can be said to achieve this result.

No able architect should fear clean and healthy competition, but under existing circumstance the reverse is so often the case that most architects of standing in England and America hold aloof from competitions entirely.

The one type of architect who benefits from the system is the young enthusiast, and consequently it may be said to act as a driving power to the profession to some extent; but it is a question how far this should be allowed to act to the detriment of the profession at large and to the loss of the promoters.

Better than Competition.

In my own opinion, the best results are to be got by a client selecting a really capable architect and conferring with him during the development of his scheme and not by competition at all. If members of building committees only had the strength of their convictions and were sufficiently acquainted with the available architects and their works, they should be able to make a sound choice without more ado; and ignorance of these facts argues on their part their own unsuitability to occupy seats on such building committees. In practice, however, we are aware that opinions differ and a building committee has to arrive at finality somehow, and the result is usually a competition. They appoint an assessor, offer a few hundred pounds in premiums, and flatter themselves that they have done their duty. Now I beg to state that in many such cases the promoters have *not* done their duty; they have merely followed the path of least resistance and shirked their real responsibility in the matter. Still, a competition is a resource to which they can readily fly. It involves a certain amount of public interest, for which the competing architects pay. The obligation is almost entirely to the competitors (as we shall presently see), and for this reason I think the promoters should show their appreciation by going to any necessary trouble to redress genuine grievances, and satisfy competitors as to the fairness of their ultimate choice by publishing the assessor's award. From an artistic point of view I do not suppose that anyone could urge the competitive system as offering any possible advantages; on the contrary, the drawings being essentially "show drawings," flatter iron roofs to the appearance of good coloured slate or tile, plaster walls to that of stone, and so on. I will therefore deal with the subject from a purely business aspect.

Unfairness of Competitions.

We architects can hardly blame business men for exacting from us such advantages as a competition enables them to do for a purely nominal payment—if we on our part permit competitions to continue upon such a one-sided basis. Now let us make one or two comparisons. If several doctors are asked to a consultation in an important case each one receives a fee. In a legal action the lawyers for the losing side have to be paid in like manner to those on the winning side; and so on in other businesses. In other words, the

axiom that professional work should be duly paid for, and is paid for, obtains in all other professions than our own. When a committee or board seek to appoint a doctor, surveyor, legal adviser, chaplain, or what not, do they advertise for applications for the post, and then call upon the applicants to do a considerable amount of professional work on approval, free of charge, and then make their selection? If they followed such a course what answers would they get? What other professional man or tradesman is compelled to drag his wares into the "Cheap Jack" market in such a way? Not one! But so long as architects continue to play the part of cheap jacks so long will the commercial bidder continue to take advantage of him.

Now, assuming the conduct of a competition is irreproachable and thirty competitors enter—each one only stands approximately a thirtieth chance of success, *i.e.*, each competitor would have to enter (on an average, thirty such competitions in order to secure one job. Now, what induces them to lay themselves open to such a game of chance? Is it that each one secretly thinks himself more capable than all the others and, therefore, that his chance is considerably better than theirs? Or is it enthusiasm in his work—of the kind only shared by worshippers of Art and Religion—that sort of fanatical desire to be up and doing even at great personal sacrifice—regardless of results? Or is it the difficulty of securing work otherwise and, consequently, the result of sheer desperation? In any case his chance remains approximately one-thirtieth.

If we do not blind our sense of fairness by our knowledge of what is customary, I think we shall agree that each of these thirty competitors should receive a premium at least sufficient to pay his out-of-pocket expenses.

Large and Small Competitions.

Let us pass from generalities to a brief consideration of the types of competitions before us. Though these may vary in detail, I think we may class them broadly under two headings: (a) Large competitions, with well drawn conditions, professional assessors, and some assurance that the successful competitor shall carry out the work. (b) Small competitions, with loosely drawn conditions, no professional assessors, where the promoters undertake no obligation towards the successful competitor as to carrying out the work.

Under class (a) let us take a supposititious case: Assuming that the assessors, conditions, etc., are all of the best possible (though there are doubtless many thorns in these) we still have an overwhelming iniquity to adjust. A building to be erected is to cost £100,000 and there are thirty competitors; premiums are advertised at £300, £200, and £100, though strictly these only aggregate £300, as the first premium is merged into the commission of the successful architect, and therefore has no actuality at all. We therefore have a total of £300 in premiums. If we value each competitor's work at $2\frac{1}{2}$ per cent., the work and finish to a good set of competitive plans making them more or less equal to working drawings, we should be dealing fairly; or, to be within the mark, we should doubtless agree that $1\frac{1}{4}$ per cent.—classing them as sketches—would be allowing a decided margin. However, let us be still more on the safe

side in our estimate and reduce it further to 1 per cent. only—a *very* liberal estimate indeed; then each competitor's design is worth £1,000. Thirty competitors receive thirty such, or aggregating £30,000 value for which we distribute the munificent sum of £30,000 amongst *two* of the competitors and the others to go without any remuneration whatever! Say what you will in favour of competitions—or even make further modifications in these figures—the difference between value received and paid for is too stupendous to be reconciled at all under the present system.

I should have preferred to leave this out of our consideration, as being beneath the notice of serious-minded architects, but the "small competition" has forced itself into such prominence that we cannot afford to ignore it.

If competitions of the class (a) are satisfactory, those in class (b) are more so. Not only do all the fundamental difficulties of (a) present themselves two or three additional points arise which are, in the highest degree, bad from every one's point of view.

Some Disadvantages of Competitions.

It is needless to dilate to any length upon the details at any length, but—
1. Unless the schedule of accommodation is definitely fixed and carefully drawn, competitors are led on a wild-goose chase in many directions. The chance fits together of a nebulous puzzle replaced by skilful working out of a scientific problem.
2. The absence of a professional assessor more likely than not misrepresents the chances of success of a genuine design—a flashy impractical one is much more favoured with the lay mind than one which is technically good, good and practical. The whole tendency of competitions promoted on these lines is to tempt architects not to make good designs from an expert point of view, but just the reverse, *i.e.*, to produce designs and drawings which will captivate the fancy of the uninitiated; thus, instead of an architect being the means of elevating public taste, he is induced to lower the standard of his ideals to that of the public.
3. When the building committee (or assessors) make their choice—be it the best design or for the worst—how is the architect in a position to estimate the cost? He is winning designs within the knowledge of all of us, no doubt, have proved quite impossible of execution for anything like the available sum.

Some Sequelæ of the Disease.

A very disquieting sequel is what promoters claim the successful designer does to their own property and carry it out for themselves without further reference to the author. It is needless to say here that a competitor enters for the mere sake of winning the premium, his sole aim being to secure the carrying out of the work. The premium merely being a set-off against out-of-pocket expenses, and for that we have seen, he makes enormous sacrifices; but to deprive him of the work successfully sucking his brains should be possible. It amounts to something worse than lottery!

Another sequel is that these organised competitions have now multiplied themselves on all sides, and is it (apparently) to secure some competition between architects, that

* Extracts from a paper in the "Kalendar of the Cape Institute of Architects" (allied with the R.I.B.A.).

instances of late no premium what-
as been offered to the successful com-
! Through want of being checked
system has now evolved itself into
ing dimensions, and it has become
a common thing for people to pro-
competitions for all sorts of insigni-
buildings without dreaming of ap-
ing assessors, offering premiums, or
ing up definite or reasonable condi-
or even proper schedules of accom-
ion. I feel perfectly sure that in
cases this is done in good faith, but
ire ignorance of facts—still, this is
we have to face.

Against Small Competitions.

Why has the trouble arisen? It has
one may say, almost, if not entirely,
gh the absolute lack of unity amongst
ects. For various reasons—real or
nary—they have never agreed as a
upon many of the most fundamental
affecting their relations with the
or their clients. Surely no other
of men with anything in common is
irely lacking in unanimity?

Is this "small competition" scare
ing like a Damoclean sword over our
it seems to me that united action
e part of architects is simply de-
ed. There will certainly be divergent
amongst our members on some of
points, but if the Union of South
can be built up on such conflicting
al, surely such a task is not impos-
amongst architects, and our coming
ation (as we hope) should offer a
e opportunity. It remains for you,
men, and our brother architects to
anything should be done—and, if so,

course is open to objection of some
out I suggest that the members of
I.A. should deliberate very carefully
this matter and frame a proposition
meet this overwhelming difficulty.
g done so, we should invite all mem-
o sign a declaration to abide by their
on, and as a basis for discussion I
re the following suggestions:

"Competitions.—Members should
ee to submit designs in competition
regulations are drawn up by a pro-
al adviser of standing—who shall
ct as assessor—when the amount to
ended is not less than £25,000. The
er of competitors should be narrowed
to say six, each of whom should re-
a premium of not less than say £100
e increased on a sliding scale in pro-
n to the amount to be expended).
eduction might be arrived at through
such means as (1) a preliminary
etition with only rough pencil
es to a small scale (one plan of each
one section, and one perspective
); (2) an inspection of existing
ings or photographs of buildings by
ing competitors; or (3) by ballot.
each of the six competitors, being
nted a premium, should develop his
n more elaborately for the final com-
on.

"Competitions.—Such competitions
tively ignored by all architects. Of
e, it would be open to promoters to
say three architects to submit com-
ve plans—even for a small building—
ying a premium to each.

Following on this paper and the sub-
nt discussions at meetings of the
Institute of Architects and in the
, the C.I.A. took steps on the lines
sted to discourage small competi-
with the result that these have lately
ne far less common. It is very grati-
to record that so able a paper has
such a practical issue.]

A TRAINING COURSE FOR TEACHERS OF BUILDING SUBJECTS.

For those concerned with the education
of the youths entering the building in-
dustry, through either the trades or the
professions, the vacation course just com-
pleted at the Municipal College, Bourne-
mouth, should have a special significance.

The course was devised by the Board of
Education for those engaged in technical
schools, either as part-time or full-time
teachers of building subjects. It has con-
sisted this year of a fortnight's full-time in-
struction, which was received by thirty
teachers selected from a list of applicants
from all parts of the country.

Some details of the particular problems
set out for explanation and discussion dur-
ing the course, and the method of
approach adopted by the lecturers, may
prove interesting.

To ensure thoroughness of treatment in
the short time available, the work of the
course was restricted, as a first experiment,
to a group of subjects suitably treated for
the student of building in his first year of
attendance at a technical school. The
subjects thus selected were: Building Con-
struction and Drawing, Building Mathe-
matics and Geometry, and Building
Science. Particular emphasis was placed
upon the close correlation of the instruc-
tion in each of the classes, in order to
ensure that the work done in any one class
should be intimately associated with the
student's daily experience in the workshop
or the office, and also with the instruction
proceeding in the other classes of the
group.

In addition, the careful planning of the
work at this stage received special atten-
tion, with the object of preparing the
student fully for more advanced work at a
later stage. Generally speaking, the
assumption was made that the subject
matter of the several lectures was known
to the teachers attending, and it was thus
possible to deal very fully with the selec-
tion and arrangement of suitable
examples, and with the problems of class
instruction which present themselves to
the teacher.

In the lectures treating upon building
construction, the necessity for careful
training in draughtsmanship in the early
stages, for the appreciation of drawing as
a medium of communication between the
designer and the craftsman, and for the
elimination of all that is false in construc-
tion or undesirable in design, were dealt
with thoroughly.

The lecturer on "Mathematics and
Geometry of Building" laid particular
stress upon the need for a "building at-
mosphere" in the treatment of this subject
and the development from this point of
view, with the selection of examples show-
ing practical significance, was masterly
and interesting. Free use was made of
many original demonstration models,
which, by their appeal to the eye, assisted
in elucidating a subject which is liable to
abstract treatment.

In "Building Science" the lecturer con-
cerned had to deal with a subject the im-
portance of which we are only beginning
to realise, and the general impression was
that a good start had been made in the
development of a "science of building"
fundamentally sound. Much interesting
experimental work was done, and, while
the chief concern at this stage was the pre-
paration of the student for work in the
later stages, a close connection between
elementary science and the particular

problems of building, was maintained
throughout the course.

That this course—the first of its kind—
has been a success cannot be doubted.
The enthusiasm of all concerned was
obvious, and it is particularly gratifying
to think that the success gives reason to hope
for the continuance and development of
the scheme, for it contains the promise of
such a reorganisation and improvement of
technical instruction in this industry as
should eventually result in the production
of a body of trained workers capable of
mastering the problems of building educa-
tion in a more scientific and thorough
manner than has yet been possible.

The course was personally supervised by
Mr. Hugh Davies, H.M. Inspector of
Building Subjects. Mr. W. R. Jaggard,
F.R.I.B.A., Lecturer in Building and
Architecture at the Northern Polytechnic
Institute, London, had charge of the
classes in Building Construction.

The classes in Building Mathematics
and Geometry was conducted by Mr. F. E.
Drury, F.I.S.E., M.C.I., head of the
Department of Building and Civil Engi-
neering at the Royal Technical Institute,
Salford.

Mr. J. Leask Manson, B.Sc., Eng.
(London.), M.R.S.I., A.M.C.I., head of
the Building Trades Department at the
Municipal Technical School, Leicester,
had charge of the classes in Building
Science.

Mr. W. Munn Rankin, M.Sc., B.Sc.,
headmaster of the Department of Science
and Technology at the college, acted as
local secretary to the course.

SOCIETIES AND INSTITUTIONS.

Society of Architects.

A special general meeting of the Society
of Architects will be held at 28, Bedford
Square, on Thursday, October 14, 1915, at
7.30 p.m. for elections to membership, to
receive the scrutineers' report on the ballot
for officers and Council, 1915-16, and a dis-
cussion on a subject to be announced. The
following additions and alterations to the
lists previously published of members of
the Society on war service are announced:
Members—Harry Clayton, Lieut. South
Notts. Hussars; Percy Hopkins, Major
13th County of London Regt.; G. T. Hurst,
Major 3rd Natal Mounted Rifles, Arthur J.
McDonnell, 1st London R.A.M.C., Sani-
tary Company; W. F. Sarjisson, 2nd
Lieut. Indian Army Reserve of Officers,
attached to 27th Light Cavalry. Students
—C. E. Burden, King's Royal Rifles; W.
Holroyd, R.F.A.; A. D. Stewart, Lieut.
17th Battalion the Royal Scots.

Cape Institute of Architects.

It is rather difficult to see why the
sessional publication of the Cape Institute
of Architects is called a "Kalendar,"
unless we are to infer that the designation
is a compliment to the parent body, the
Cape Institute being "allied with" the
R.I.B.A. In no other way is the title
justified. No kalendar is included. There
is, however, a good deal of information of
business character, and, in addition, there
is, besides the annual report and the pre-
sidential address, a selection of papers by
members—"Colour in Architecture," by
Mr. J. Morris; "Mural Painting," by
Mr. E. Roworth; and the paper by the
President, Mr. F. K. Kendall, F.R.I.B.A.,
on competitions, of which we reproduce
the substance in the present issue.

The Cape Institute of Architects was
founded in 1899 for the advancement of the
profession of architecture, for promoting

and facilitating the acquisition of a knowledge of the various arts and sciences connected therewith, and for the consideration of questions of professional practice and public interest. In 1907 the Institute became allied with the Royal Institute of British Architects. The meetings of the Institute are held at Markham's Buildings, Cape Town, on or about the second Thursday of each month, from April to November. Papers are read and professional questions and matters of public interest discussed. The past-presidents are: 1902, John Parker, F.R.I.B.A.; 1907, Francis Masey, F.R.I.B.A.; 1910, Arthur H. Reid, F.R.I.B.A. The office-bearers and council for 1915-16 are as follows: President, F. K. Kendall, F.R.I.B.A.; Vice-President, Arthur H. Reid, F.R.I.B.A. Council: Fellows, E. Austin Cooke (hon. treasurer), William Black, F.R.I.B.A., W. J. Delbridge, A.R.I.B.A., James Morris, Licentiate R.I.B.A., C. H. Smith, A.R.I.B.A.; Associates, W. A. Ritchie-Fallon, A.R.I.B.A., H. A. McQueen; Hon. Auditor, W. G. Fagg, Licentiate R.I.B.A.; Secretary, T. A. Dalglish, Markham's Buildings, Cape Town.

The following extracts from the report will serve to convey some idea of the activities of the Institute:

The last annual meeting instructed the Council to consider the advisability of having a paid secretary, with power to appoint. The Council approved, and from the numerous applicants, appointed Mr. T. A. Dalglish, of Markham's Buildings, at a salary of thirty guineas per annum, the secretary supplying the room for Council and general meetings. The Institute room has consequently been given up, and the idea of a permanent house for the Institute is for the time being in abeyance.

The Council report that very slight progress has been made to present a Registration Bill in Parliament, partly owing to the present circumstances, and also to the want of support (there are some eighty practising architects and assistants who have not subscribed to the fund) from the junior members of the profession, who will principally reap the benefit of the Act. The position at present is: The Cape Institute, according to arrangement with the Transvaal Institute of Architects, Natal Institute of Architects, and the Association of Transvaal Architects, prepared a draft Bill incorporating the various amendments and suggestions of the forenamed bodies. When the corrected draft was sent to the Transvaal for final acceptance, the Association of Transvaal Architects set it aside and sent back a new draft altogether, embodying new matter and including legislation for quantity surveyors. Rather than put any obstacle in the way of the Bill, the Institute Council accepted the new Bill, but suggested several amendments, including the omission of the compulsory clauses, which were similar to those which wrecked the Accountants' Bill, and which, if retained, would do the same for this. The only reply to the Institute's suggestions has been the forwarding of a few more copies of the original draft without comment on the suggestions. If the members of the profession practising and assistants would wholeheartedly support the Institute, and those who have not (and there are many) would subscribe towards the cost, the Council could proceed without dependence on the Association of Transvaal Architects.

The Master Builders' Association approached the Council as to the procedure regarding sub-contracts for electrical and other fittings, asking that these should be left more to the general contractors. The Council while declining to suggest any

alteration to the existing methods, would recommend to the members that if it is not already their practice to do so, they should after each provisional sum for such work as electrical fittings, sprinklers, etc., insert a special clause for attending on and making good after such service, also give particulars of the work required earlier than is common at present, and in large jobs supply the general contractor with a copy of the special specification.

Town Planning Institute.

The first meeting of the session 1915-16 of this institute will be held on September 24, at 92, Victoria Street, Westminster, S.W. (by kind invitation of the Institution of Municipal and County Engineers), at 8 p.m. The dates of other meetings, and subjects of discussion, may be obtained from the secretary, Mr. Alfred R. Potter, 4, Arundel Street, W.C.

Architectural Association School of Architecture.

The curriculum of the A.A. School of Architecture for the session 1915-16 sets forth in full detail the course of three years in its day school arranged in accordance with the principles established by the Board of Architectural Examination. In commendation of this preliminary training, it is urged that "many architects do not care to receive pupils who are beginners, but they willingly take young men who have been well grounded."

Of the Day School the head master is Mr. Robert Atkinson, F.R.I.B.A., the assistant masters being Messrs. Alan Potter, Walter M. Keesey, R. Lowry, and L. H. Bucknill. Mr. Atkinson is also head of the Evening School, in which Mr. C. E. Varndell is lecturer on theoretical and practical construction, and Mr. H. M. Robertson is master of the Evening Design School. Other lecturers or instructors are: Mr. Theodore Fyfe, F.R.I.B.A. (Greek and Roman Architecture), Mr. Aymer Vallance, M.A. (Mediæval), Mr. A. E. Richardson, F.R.I.B.A. (Renaissance), Mr. A. O. Collard, F.R.I.B.A. (Professional Practice), Mr. H. F. Waring (Water-colour class). Full particulars are given of all the courses, as well as of the numerous scholarships, studentships, and prizes. These include an entrance scholarship of the value of forty-eight guineas. The curriculum may be obtained from 18, Tufton Street, Westminster.

LEGAL.

Sub-Contractors' Claim for Plasterwork.

George Nichols, Ltd., v. Kelley and Sons.
August 23. Coventry County Court.

This was a claim by George Nichols, Ltd., master plasterers, against Kelley and Sons, builders, for £83 16s., for materials supplied and work done.

Messrs. Kelley obtained the contract for large extensions at the Coventry and Warwickshire Hospital, and Messrs. Nichols were engaged as sub-contractors for the plastering, which was begun in July, 1912, and finished in January, 1914, and for which monthly payments were made. The amount in dispute related to extras, a chief item among several being the substitution, at the request of the architects, of a dearer plaster. Another point in dispute—the thickness of the plasterwork in the corridor of the hospital—was determined by a visit of the parties, accompanied by an architect, to the hospital during the court luncheon interval. It was afterwards admitted that the plaintiffs' claim in this respect was substantiated.

Judgment was declared for £78 17s. 1d.

COMPETITIONS.

City of York Town Planning

We are informed that the conditions of this competition are under consideration by the Council of the Society of Architects with a view to amendment. Members are requested to communicate with the secretary before entering for the competition.

NOVEMBER 30. — TOWN-PLANNING SCHEME, YORK. — The Town-Planning Committee of York Corporation are considering competitive schemes under the Housing and Town Planning Act, 1909, in connection with certain areas within and without the city of York. Premiums of £100 and £25 are "to be awarded by competition assessors." Schemes are to be sent in by November 30, 1915. Conditions (non-returnable) from F. W. Spurr, Engineer, Guildhall, York.

NEWS ITEMS.

Chelmsford Cathedral.

Chelmsford Cathedral, which has been damaged by lightning, is not the only building. That collapsed in 1800, the tower and south porch, and was rebuilt, partly with artificial terraced stone, in the bastard Gothic style which was then beginning to prevail. It has lately been enlarged, beautified, and greatly improved.

A Dublin Housing Question.

At a recent meeting of Dublin City Association a discussion took place on the housing problem as it affects Dublin, especially upon the point as to whether workers actually preferred for their cottages on the outskirts of the city, or to move from their work, to dwellings of the block type in the immediate vicinity of their occupations. It was resolved to submit this phase of the question to the Dublin Trades Council for the opinion of the body.

Professor Reilly Appointed Inspector of Munitions of War.

Professor C. H. Reilly, M.A., F.R.I.B.A., Roscoe Professor of Architecture at the University of Liverpool, and director of the Liverpool School of Architecture, has been appointed Government Inspector of Munitions for the Liverpool, Cheshire, and North Wales area. At the bridge, in 1896, Professor Reilly took class honours in the Engineering Tripos, and, preliminary to assuming the inspection of munitions, he has recently completed a special course of observational instruction at Woolwich Arsenal.

New Peabody Buildings, Walworth.

New Peabody buildings which have been erected in Rodney Road, Walworth, comprise ten blocks, and are five stories high. The elevations are built of red faced bricks with Luton brick and artificial stone dressings, and slated roofs. The gates and railings are of wrought iron. Accommodation has been provided for self-contained one, two, three, and four roomed tenements, each tenement having in addition to its own entrance lobby, scullery and w.c. There has been provided for the use of the tenants a detached building comprising a steam-heated laundry, wash-house, and shelter occupying the central site. All the staircases, w.c.s., sculleries, and laundry have the walls of brick. The buildings, which are of fire-resisting construction throughout, were designed by Mr. Victor Wilkins, surveyor to the Peabody Donation Fund, the general contractors being Messrs. W. Cubitt and

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COMPOSITION OF ANTIQUE FRAGMENTS.

(From Piranesi.)

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TOTHILL STREET, WESTMINSTER.

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EDITORIAL.

BY one of the little ironies of circumstance, it is at the moment when "Lights out!" is the *mot d'ordre* that the first report of the Departmental Committee on Lighting in Factories and Workshops is published. It is nevertheless welcome, for the subject had hitherto received too little attention from legislators; whereas, on the other hand, hardly any other department of practical science can show such an accumulation of data as that which during the past few years has been patiently collected by the illuminating engineer. A mass of valuable information was therefore awaiting the generalising process that is usually entrusted to a Departmental Committee, who in this instance have had to winnow and weigh the evidence of fifty witnesses, of whom twenty are classed as "professional, technical, and scientific." As six of these are illuminating engineering experts, and six are architects and surveyors, neither the older nor the younger profession is likely to complain that it has been unduly neglected, although the architects may perhaps feel that their societies should have been included among the "representatives of professional and scientific societies," seeing that in this class the Illuminating Engineering Society has three places out of the five, the other two being assigned respectively to the Institution of Electrical Engineers and the Institution of Gas Engineers.

It may be a point of no great importance, but we confess that we should have liked to see the R.I.B.A. and the Society of Architects represented. That half a dozen architects gave evidence does not meet the case. They gave it, presumably, from a purely technical point of view, with hardly a glance at the corporate interests which are the proper concern of the architectural societies—of which, however, some of the witnesses are not members. It is true that the terms of reference did not and could not include professional interests; but these, in inquiries of this kind, are always, directly or indirectly, more or less affected, and that the views of the corporation are as relevant as those of the individual practitioner is acknowledged in the fact of admitting the other societies. With every fresh encroachment that threatens the architect's domain, it becomes increasingly necessary to guard against the deprivation or imposition that may occur as accidents of the newly created situation. When these two effects act in combination, the architect is open to suffer a two-fold injury, by losing authority without commensurate relief from responsibility. How unfair this is to the architect has been seen in the courts, and, as the matter stands, he is without remedy.

To fasten upon the architect a legal responsibility that has no moral counterpart is revolting to that sense

of justice that differs profoundly in accordance with habitation in the lay or in the legal mind. Law, when declared, is "sublimated common sense," occasional specimens of it set up a pronounced ignorant preference for the unqualified substance. There can be no question that the legal position of an architect with respect to contracts, and more especially sub-contracts, needs considerable revision—a task though delicate and difficult, is surely not insuperable. It will not be easy to establish a claim for authority and less responsibility, nor would it be quite a fair statement of the case. It is certain that an architect can have no burning desire to assume rights, if only the old may remain to him. He does not wish to intrude on the domain of the specialist; that, for instance, of the illuminating engineer, or again, on that of the heating specialist. Assuredly no claim to omniscience is advanced by the architect so far from the vice of trespassing on another's province, is nowadays disposed to weaken somewhat his established prerogatives, and is but timidly holding his own.

To return to the report of the Committee on factories and workshop lighting. Although at first sight it may seem to be issued at an unpropitious moment, there is one respect in which it is opportune. It is a first step towards that more systematic and scientific handling of industrial problems which is essential to national prosperity. Of course this necessity has arisen out of the war, which, however, has quickened the perception of it by emphasising the supreme importance of industrial and economic efficiency. As long ago as 1911, Mr. A. Home-Mansfield, as President of the Birmingham Association of Mechanical Engineers, laid stress on the need for the cultivation of industrial vitality, the index of our progress among the nations. Industrial vitality, he said, in a passage quoted by Mr. H. C. Jas. Carrington, F.R.S.E., in a paper on reinforced concrete construction read this year before the same association, recently published as a pamphlet, can only result from industrial efficiency, and that, in turn, from well-broadly conceived industrial design and efficient industrial design and efficient industrial and commercial management. "In Germany and America," he said, "industries are being truly designed to produce, and are not merely built and started."

In making this citation, it has struck us that the interest is not wholly intrinsic. It suggests the notion that the architect should beware of any tendency to leave the problems of industrial economy too much in the hands of the engineer. An intensification of industrial and commercial energy must be the inevitable outcome of the present struggle, and it is a duty that the architect owes to his art as well as to his legions.

interest, to adapt himself to the changing conditions. He should not, for instance, tamely abandon any design to the engineers. Apparently factories increase and multiply, and it would be deplorable if they were designed with so little respect for art as only to degrade co-extensively the popular appreciation of seemliness.

In the report of the committee on lighting there is the usually rather humiliating confession that in this respect as in so many others Great Britain lags behind other countries. In all the chief European countries, our own, in the United States, and in India, there are provisions requiring adequate lighting in factories; our Factory Acts, which control so many other matters, including heating and ventilation, will not be long revised in accordance with the recommendations of the Committee that there should be a compulsory provision—" (a) requiring adequate and suitable lighting in general terms in every part of a factory or workshop, and (b) giving power to the Secretary of State to make orders defining adequate and suitable lighting for factories and workshops or for any part thereof or for any processes carried on therein." "Adequate lighting" are indicated lighting that is sufficient for the proper carrying out of the work both in regard to quality and output, and the absence of light conditions that are prejudicial to the health, comfort and safety of the workers. These conditions, moreover, have important effects on industrial efficiency—not only on the quality and quantity of the work, but on the productive value of the worker. "Fatigue-strain," it has been recently discovered, is the cause of many specific diseases, besides a general lassitude that keeps the worker and his work below par. Poor or evil conditions trail a long train of like consequences, and it is not too much to say that the enforcement of proper provisions for illumination will be of far-reaching national benefit.

In the brief description, under "The Plates," No. 117, of the garden memorial by Miss Jekyll and Walter Pater, there is an allusion to a somewhat similar type of memorial adopted some years ago in the City. No doubt the writer has in mind the "Garden of Memories" that we owe to the generosity of the late G. F. Watts, R.A. It may be recalled that the burial-ground at the side of the church of St. Botolph Without, Aldersgate, was laid out as a garden, with flowered borders, a sundial, and a little fountain. Being near the General Post Office, the garden was, and is, much used by the people employed in the neighbourhood, and hence it is popularly known as "The People's Park." Watts caused to be erected a tiled house for the shelter of memorial tablets, "in commemoration," as the inscription runs, "of heroic self-sacrifice," the tablets, which are of faience-ware, recording the noble deeds of men, women, and children, who lost their lives in attempted escapes from drowning, burning, and other accidents. As to the memory of a doctor who offered his life as a sacrifice in the effort to save that of a child suffering from diphtheria. Unfortunately these tablets, of which there are now about fifty, have but slender claims to beauty, being insignificant in size and uniform in design. Their loveliness is in what they convey rather than in their manner of conveying it; but the design is excellent. In the midst of them there is a very fine statuette of Watts himself, above which is inscribed his favourite motto, "The utmost for the least."

It is worth while to notice that the church of St. Botolph Without—that is, outside one of the gates in the old city wall—has at least two distinctive claims to attention. It is one of the few City churches that were built by Wren, and its tower rises at the east end, the lower part forming the chancel. It is of comely

exterior—indeed, noble would not be an extravagant word to apply to its western face, and admiration of it is tinged with regret that its architect, James Gold, who built it in 1725-29, has not left us much of his work. The church it superseded survived the Great Fire. In its chancel is a monument to Sir Paul Pindar, whose Jacobean residence in Bishopsgate was long a notable object of architectural interest. St. Botolph Without, Aldersgate, must not be confused with St. Botolph, Aldgate, which was built by George Dance in 1741-44.

It is unnecessary to say more in condemnation of the air raids on London than that they would be extravagantly farcical if they were not in a double sense tragical. It is hard to determine whether the greater tragedy is in the death and maiming of helpless civilians or in the imbecile depravity of the murderers. Fortunately no building of the slightest national importance was hit. Indeed, the Huns seem to have been so thoroughly flustered by our guns as to lose all sense of locality. Their idea seemed to be to get rid of their bombs and get away from our airmen with the utmost celerity. So warm was their reception that it is hard to believe that they all got away with whole skins. It was in mean streets inhabited by very poor people that the most extensive damage was done, but we regret to notice that among the exceptions to this classification was a fine old square in which a row of interesting houses of the Queen Anne period suffered rather severely. For the moment, we prefer not to specify the square.

Several incendiary bombs were dropped, but the resultant fires were extinguished with a promptitude that speaks eloquently of the fine spirit and splendid efficiency of the Metropolitan Fire Brigade. A word of acknowledgment is due also to the special constables, who promptly performed a great deal of useful work, rendering, for instance, excellent service by immediately extinguishing all lights. As this is the "concrete and steel" issue of the Journal, attention may be opportunely directed, in relation to bomb-dropping, to the account given on a later page of the perfect resistance of a reinforced-concrete building in Canada to the explosive force of the charge of dynamite with which some miscreant attempted to destroy it. Yards of brickwork were blown away, and most of the windows were shattered, but not a chip was removed from the reinforced concrete, which is therefore clearly indicated as the material that offers the best assurance of immunity, complete or comparative, from the effects of aerial attack.

Several of our readers appear to have been immensely tickled by the following passage from "Truth," to which they have obligingly referred us: "I asked a little girl the other day in what style the London Houses of Parliament are built. She could not remember the word 'vertical,' and after beating her brain a little she said: 'I know. The corduroy style, with the windows between the raised stripes.'" Out of the mouths of babes and sucklings cometh forth wisdom. Psychologists—for instance, Professor James Sully—set great store on the impressions made on the minds of children by their surroundings, and hold the record of them to be a valuable indication of how the human mind works. Association of ideas doubtless influences—or sophisticates—aesthetic judgment to an extent that is not yet fully appreciated. Hence diversity of experience leads to diversity in taste; for our impression of form and texture is inevitably, and nearly always involuntarily, biassed and coloured by the pleasantness or unpleasantness of the objects that have previously affected us, and of which the newly seen object happens to remind us. If the little girl disliked corduroy, she would not admire the verticality of the Houses of Parliament: or contrariwise.

HERE AND THERE.

THOSE sanguine innovators who imagine that they can abolish our fireplaces and our grates are leaving out of count the psychology of the British housewife. Is it conceivable that She-who-must-be-obeyed will ever consent to the annihilation of that which (saving her fair presence) makes the house a home? What is a home without a fireplace? In a thousand tender relations the domestic hearth is sacred. When our soldiers took the field, were we not told by the dithyrambic that they "went forth to fight for hearth and home?" Are we to be lightly deprived of that trite trope? No hearth, no home. You could not stimulate to deeds of valour with such a battle-cry as "For stove and tenement!" Stoves do not stir the blood. They do not show us faces in the fire. They do not suggest the hallowed associations of the chimney corner. You cannot rhapsodise about a stove: its very name is antagonistic to tenderness and antipathetic to poetry. It is because of their miserly addiction to stoves (often aggravated by a coating of horrible crockeryware ornamentation) that the Huns have lost their humanity—if they ever had any: which is a debatable point, whereof the issue might strengthen the case against the character of the Germans, but could not weaken the indictment of stoves.

This, you will say, is mere sentiment. Do not, I beg, speak slightly of sentiment. Does it not inspire all that makes life worth living; is it not of the essence of the war against Germany? If the Germans had not been prevented by their ghastly stoves from basking in honest firelight, they would not have been so eager for "a place in the sun," and William the Melodramatic might have been less greedy for the limelight. If I thought there was any real danger of our having no hearths to fight for, I should tremble for the national temperament, which would lose all its tender grace and half its inspiration to action. Moreover, the British housewife would be most cruelly robbed of a wholesome grievance—wholesome, because it occupies her mind to the exclusion of other worries; for the lady who is in constant communion with a good robustious smoky chimney is thereby smoke-cured to comparative insensitiveness to the minor ills of life. But it must only smoke at intervals. Were it chronic, rather than periodic, the lady of the house would call in an expert and have it cured, and forthwith she would be free to turn her attention to further and perhaps more serious grievances that the smoke had mercifully obscured. I know, in fact, a gentleman who always instructs his decorator to leave uncleansed a certain patch of stain in the ceiling. "Why?" at first the decorator asked, in bewilderment. "Because," was the reply, "it is my wife's pet grievance, and while she has that to worry about she won't worry about much else."

In the towns, the zinc-worker is, in a manner of speaking, "most potent in potting." With his tall-boys, his lobster-backs, his revolving louveres, he breaks the skyline with so diabolically diverse an assortment of hardware, that any means of deliverance from it would be effusively welcomed by most architects. Not that they would like to lose the chimney. In some modes of building it is as essential a feature to a house as the nose is to the face. If it be not decorative, it should at least be shapely. In the sixteenth century the elaboration of the chimney—as, for example at Thornbury Castle, Gloucestershire, where half a dozen decorative features are packed into one poor stack—was surely excessive. Of course chimneys were in use in England long before they attained to this highly

decorative treatment. Henry III. (1216-72) had a nice taste in decorated chimney-pots, and orders that in the royal palaces the chimneys should be heightened—whether to promote beauty or to prevent down-draught is not recorded.

Yet, even in the days of the Tudors, chimney-pots plain or fancy, could not have been very common for Leland, who was chaplain to Henry VIII., who, as "king's antiquary," was commissioned to make researches in various parts of the kingdom and therefore had excellent opportunities for observation, was astonished to see chimney-pots. Bolton. He "notyd in the hawle of Bolton chimeneys were conveyed by tunnells made of oysds of the walls betwyxt the lights in the hawle and by this means and by no covers, is the smoke of the harthe in the hawle wonder strangely conveyed." He was apparently scandalised, as Plowman had been a long time before at the effeminately luxuriant departure from the goodly simple plan of letting the smoke escape through a hole in the middle of the roof.

With the chimney would go the chimney-pot, and we cannot spare it. Without it no room can be made to tend to be homely. Still less could it claim to be artistic. It gives the architect his one real opportunity for decorative design, or constructive decoration. Whether he uses it well or ill, he enjoys it. Who would be so cruel as to deprive him of it, though he is of those who like to give the S. Lifers their full tale of bricks? A pre-Adamite work fireplace is better than none.

William Langland, or Langley, with his references to the hovels in which the peasants herded, his day, was by way of being the first hovel-reformer. In his "Vision of William Concerning Piers the Plowman, together with Vita de Doctore et Doctore, et Doctore, secundum Wit et Resound," plowman complains that "smoke and smyt in his eyen." And no wonder at his affliction for "the dank smoke from the turf fire could fyll the vent but through the loopholes and chinks of the door." It will be recalled that Chaucer also describes his "Nun's Priest's Tale," a desolating description of a lowly cottage, which consisted of what the Scots would call "a but and a ben," but which the peasantry of England, with their customary humour, called "a hall and a bower." It is even the same lively vein that Thomas Atkins named narrow and miry trench "Bond Street," or the fortless superannuated railway carriage in which sleeps "Donnington Hall." In Chaucer, the wife and her "daughters two" slept in the "bower." In the "hall," chanticleer and his seven roosted on a perch, while swine occupied the floor. Smoke from the fire had to find its way through the crevices in the roof, and "well sooty was her hawle and eke her halle." When at length town chimneys shall find no place on the roofs made flat for the convenience of aircraft, still may the country landscape continue to gather a human interest from the upward curling of the light-blue smoke from the domestic chimney! Not even the most austere and most hysterical member of the Smoke Abatement Society would forbid us that mild æsthetic pleasure. A chimneyless horizon were hardly less tolerable than a hearthless home. Electric fires do not inflict these bereavements upon us, but adapt themselves very blandly to our idiosyncrasy, giving us all the joys of the grateful and comforting fire, except the smoke; but the Russian system, I gather, does nothing to flatter our predilections.



TABLETS AND INSCRIPTIONS. XII.—JOHN GEORGE PHILLIPS MEMORIAL, GODALMING.
THACKERAY TURNER, F.S.A., F.R.I.B.A., ARCHITECT.

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Photo: Thomas Lewis, Ltd.

DETAILS OF CRAFTSMANSHIP. XXXIV.—PLASTER CAPITAL IN METROPOLITAN BANK, WOLVERHAMPTON.
COSSINS, PEACOCK AND BEWLAY, ARCHITECTS.

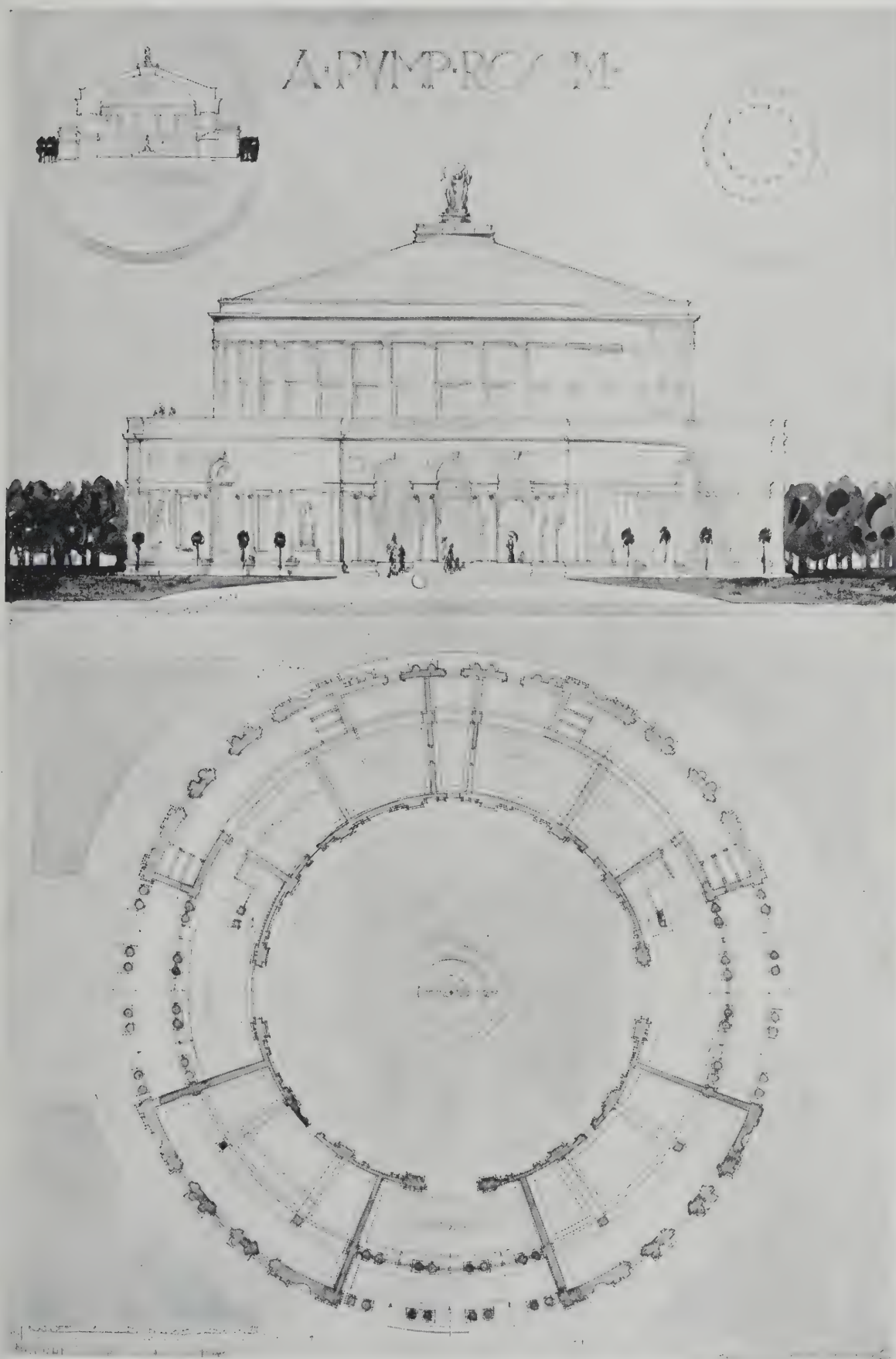
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CURRENT ARCHITECTURE (SERIES II.). XLIV.—UNION BANK OF MANCHESTER, PICCADILLY, MANCHESTER,
THOMAS WORTHINGTON AND SON, ARCHITECTS.

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STUDENTS' DRAWINGS. L.—DESIGN FOR A PUMP ROOM.

BY VINCENT HULL.

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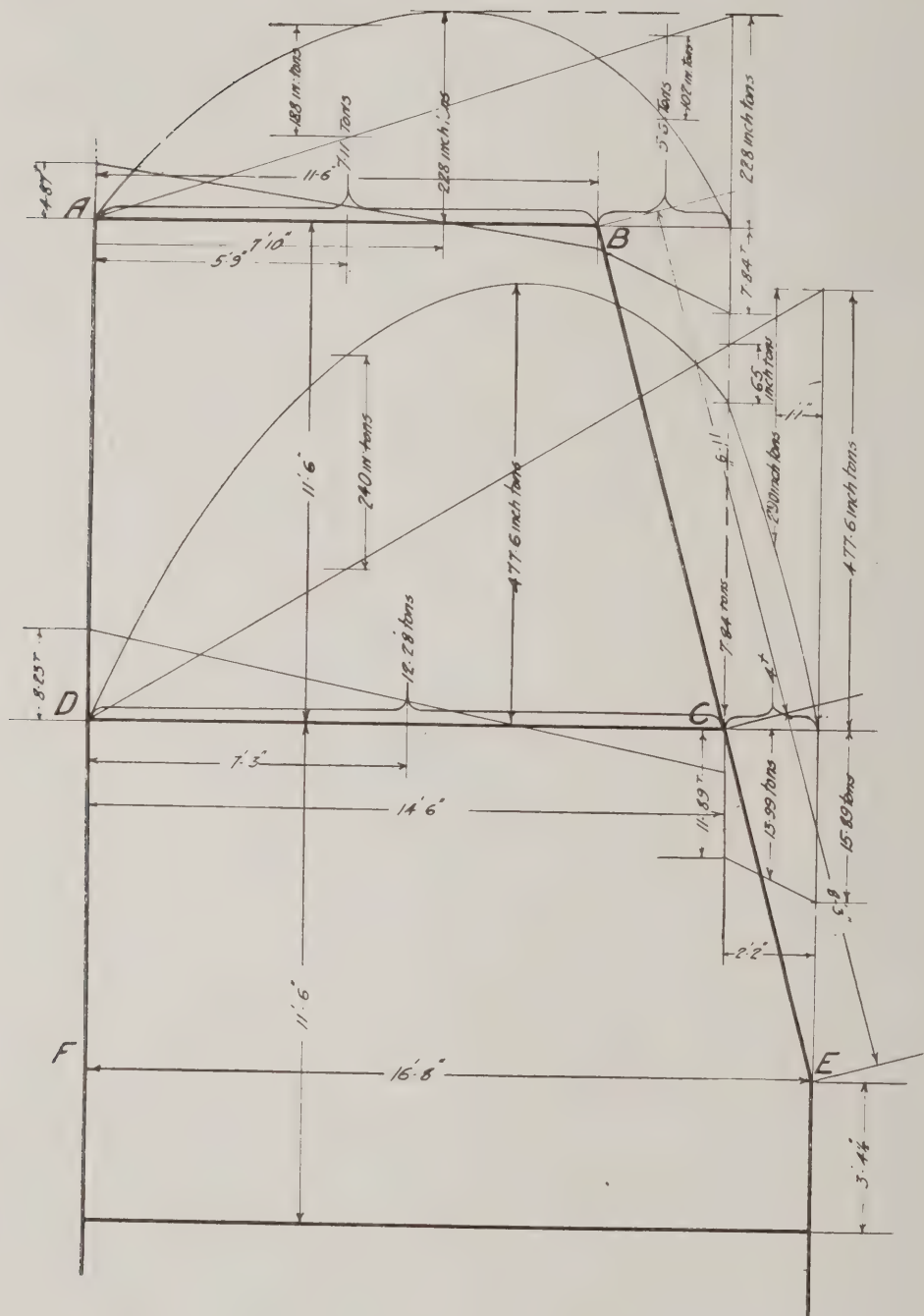
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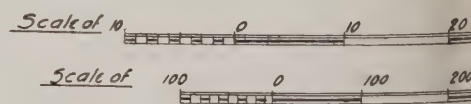
SMALL HOUSES OF THE LATE GEORGIAN PERIOD (SERIES II.). II.—COTTAGES AT CAPEL, SURREY.

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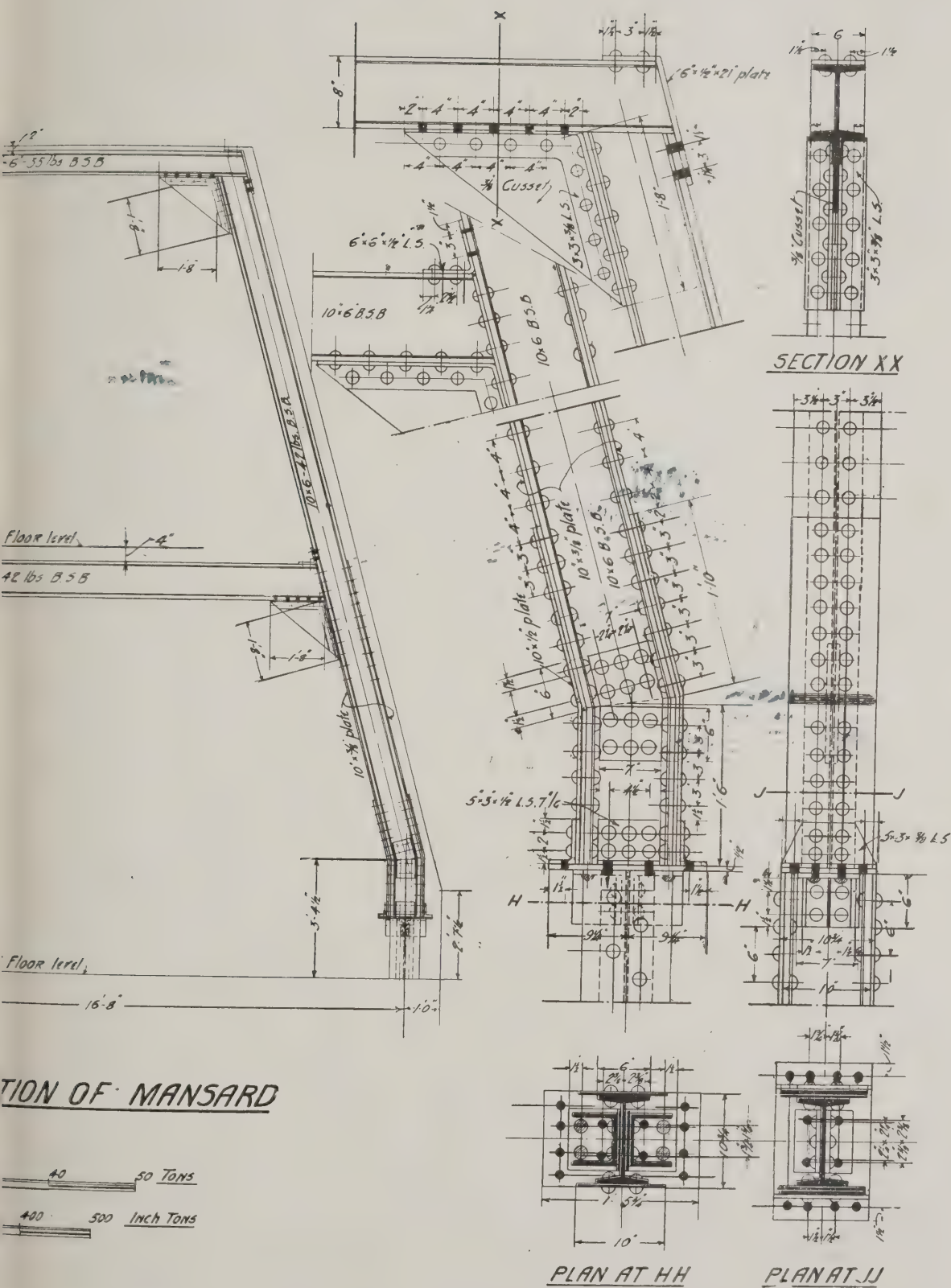
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SHEAR AND B.M. DIAGRAMS



ROOF



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THE PLATES.

Mural Memorial Tablet, Godalming.

MISS JEKYLL and Mr. Thackeray Turner, F.S.A., F.R.I.B.A., have devised, at Godalming, Surrey, a kind of Garden of Memories, of which the central feature is a pool, and the garden is bounded on one of its sides by an arcaded cloister of honest masonry work. In one of the bays is a tablet to the memory of John George Phillips, a wireless telegraph operator on board the Titanic. As the well-designed inscription records, Phillips died heroically at his post when the vessel foundered in mid-Atlantic. This essentially architectural memorial suggests an almost ideal way of commemorating the illustrious dead, and will doubtless be imitated. In particular, it will probably stimulate the practice, begun some few years ago, of putting up mural tablets in disused City churches, where greensward, a few flowers, and perhaps a fountain, lend a peculiar grace to the commemoration. It is chiefly to be feared in this movement is that tablets may be put up casually, as they seem to be on the Embankment. They should, of course, follow the excellent example of Miss Jekyll and Mr. Thackeray Turner, form units of a preconceived architectural scheme. Further observations on this type of memorial will be found in our Editorial pages.

Plaster Capital in the Metropolitan Bank, Wolverhampton.

Whether or not it be true that the idea of the volute suggested by the arrangement of a woman's hair, is certain that this decorative form has the perennial, inalienable charm of its supposed original, and is here for ever. This example from the Metropolitan Bank, Wolverhampton, of which Messrs. Cossins, Brock and Bewlay are the architects, shows the fine stability of the volute, where, as in the case of masonry work, bold relief is a prime characteristic of the medium, plaster having insufficient sharpness for the delicate effects that are possible to the art of the sculptor.

Union Bank of Manchester.

Opinion will be divided as to the effect of the design on this building. Personally we could wish to move away, because they seem to us to detract from the general unity of the composition, which, as a whole, combines grace with dignity. A plan is given below.

Design for a Pump Room.

Is the idiotic and ugly name Kursaal is, or should it be quite extinct by now, and as the wealthy people of the islands are by no means likely to resume the old habit of paying handsomely to be poisoned by swindler quacks, there is a strong probability that the pump-room and the British spa may again come to their own. The subject therefore comes well within the sphere of practical politics, and possibly Mr. Robert Hull's elegant elevation and regulation plan may yet materialise. It is of a mode that would not displease Beau Nash or Beau Brummel, but is perhaps hardly gorgeous enough to have earned the reputation of the fastidious "Mr. Baps." It is a delicate subject, delicately handled—difficult because of the temptation, which Mr. Hull has almost too successfully avoided, to redeem the bald banality of a facade by desperate decorative devices. His regular façade introduces an effective relief to the solid shape of the screens, and he has done well to keep his proportions low.

Buildings and Enrichments from Manchester Old Town Hall.

To become the slave of the "French curve" is the original sin of the mediocre draughtsman. By its too frequent application he throws away his best chance of inspiring the feeling for form and the skill of hand that

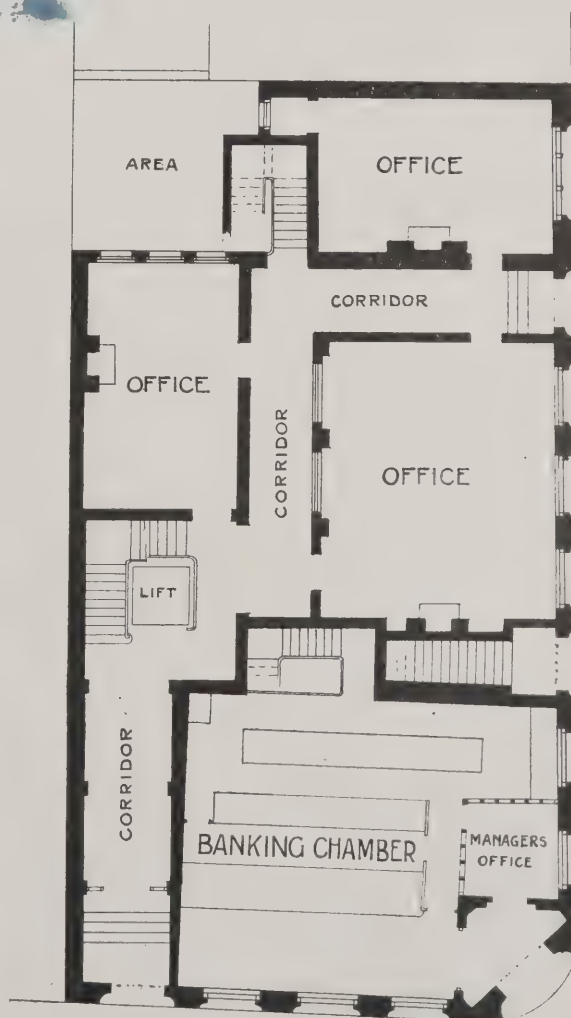
mark the master, and are, indeed, the one firm basis of accomplished architectural draughtsmanship. Judged by this test, Mr. Gordon Hemm is exceedingly well grounded; and the several plates of mouldings he is showing in this series afford a most profitable approach to a feeling for form. His lettering, too, is, on the whole, an excellent model for imitation, although it is perhaps a little exuberant in the flourishes. These, however, are quite "according to Cocker," who, it will be remembered, was a writing-master as well as an expert in arithmetic, and to whose influence, no doubt, we are indebted for much of the beautiful handwriting and lettering which, in his day, reached the highest pitch of excellence. Fine lettering, "in the Italian style," is a very estimable bequest of the Age of Elegance, and it is nowhere better seen than in the best architectural specimens.

Cottages at Capel, Surrey.

Weather-boarding was a favourite material with the builders of cottages in the latter part of the eighteenth century. This plate, however, apart from the pictorial charm of its old-world subject, is chiefly interesting for its exemplification of the use of the three-light window as, presumably, a calculated device for harmonising with the long low lines of the building.

Mansard Roof.

Mr. Percy J. Waldram's sixth article on "Examples of Steel Frame Construction," which appears on pages 118 and 119 of the present issue, supplies all necessary description of this eminently useful plate. Further elucidatory diagrams are given in the letter-press.



UNION BANK OF MANCHESTER, PICCADILLY, MANCHESTER:
GROUND PLAN.

THOMAS WORTHINGTON AND SON, ARCHITECTS.

EXAMPLES OF STEEL FRAME CONSTRUCTION—VI.

BY PERCY J. WALDRAM, F.S.I.

(Continued from page 30, No. 1072.)

MANSARD RIB.

Main ribs of a flat and mansard concrete roof extending through two storeys, 7th and 8th, and carrying the main floor girders of the 8th floor and the flat roof. Angle of mansard 75° . Distance apart of ribs, centre to centre, $11' 0''$. Span of 7th floor main girders from centre of interior cross-girders to centre of wall stanchions $16' 8''$. Slope of mansard to commence at $80' 0''$ above pavement, *i.e.*, $2' 7\frac{1}{2}''$ above 7th floor. Total load and weight of roof construction per foot super., .055 tons on flat and .042 tons on mansard. Total load and weight of 7th and 8th floors .075 tons per foot super. Dormers to be constructed in concrete and taken at same weight as sloping concrete roof.

Loads on Members.

Roof joists span $138''$.

$$11'5 \times 11 \times .055 = 6'95 \text{ tons}$$

$$\text{Weight of } 8'' \text{ joist } \frac{WL}{1000D} = .16$$

$$7'11 \text{ tons}$$

Mansard Rib.

$$11'75 \times 11 \times .042 = 5'40$$

$$\text{Joist, say } .22$$

$$5'62$$

Eighth Floor Joists.

$$14'5 \times 11 \times .075 = 12'00$$

$$\text{Joist, say } .28$$

$$12'28$$

Mansard Rib.

$$8'25 \times 11 \times .042 = 3'84$$

$$\text{Joist, say } .16$$

$$4'00$$

Bending Moments on Mansard Ribs.

The stresses on members firmly jointed into a frame are frequently very much less than if they acted alone.

Our modern habit of considering each member and structure individually, and of calculating its strength irrespective of the assistance afforded by its neighbours is apt to enfeeble our true constructive instincts. A model of a roof truss, constructed of wood laths and string and loaded with ordinary weights, often gives the designer a far more scientifically accurate conception of the nature of the stresses to be met than the most perfect stress diagram. Herein lies the solution of many puzzling problems such as the factor of safety in the loaded superstructure of a motor omnibus, or the obstinate refusal of old roofs, floors, and stone staircases to collapse in accordance with "theory."

In steel frame buildings the usual practice of designing each member individually is probably responsible for a somewhat large over-estimation of the stresses. But as the co-operation of contiguous members is frequently intricate and involved, and as we cannot make models of structural steel work, as our forefathers made models of their daring roofs, the designer will be well advised

to neglect the assistance of such co-operation except in simple cases where the frame stresses can be readily grasped.

If the beam AB, Fig. 12, and the rib BC of a mansard be considered separately there would appear to be several different

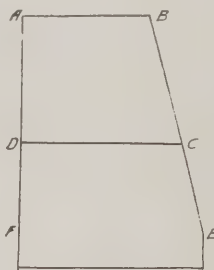


Fig. 12.

bending tendencies acting upon them, partly cumulative and partly mutually neutralised.

The beam, Fig. 13, would tend to act as if fixed at the knuckle B to a somewhat flexible support, and the bending moments from its distributed load would therefore cause sagging at the centre and hogging

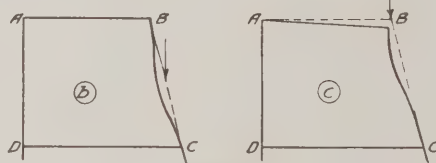
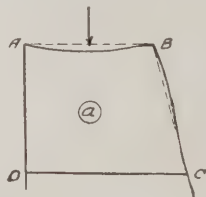


Fig. 13.

at the knuckle B, and would also impose hogging moments in the upper half of the rib BC. The latter would act as a beam of a horizontal span DC, with fixed or continuous ends, and the bending moments due to its load would cause hogging at the ends and sagging at the centre.

Each of the beams AB and BC might be considered as imposing a reaction on the knuckle B approximately equal to half the load on each. These reactions, considered as a vertical load on the knuckle, would tend to cause sagging in the upper half of the rib and hogging in the lower half, in addition to direct compression.

The direct compression would be the inclined resultant of the vertical reactions on the knuckle, and would be accompanied by an outward thrust of the rib foot C equal to the horizontal component of that resultant.

When, however, the mansard AC is viewed as a whole it will be readily seen that it merely forms one complete cranked beam of a total horizontal span DC, upon

which the bending moments can be determined in the ordinary way.

Reaction on Knuckle Joint.

It is not at first sight easy to see the load on the knuckle should not be the load on the beam plus half that of the rib. Fig. 14 shows a severed experiment beam devised to illustrate this point.

So long as the loads are symmetrical with regard to the bearings only horizontal

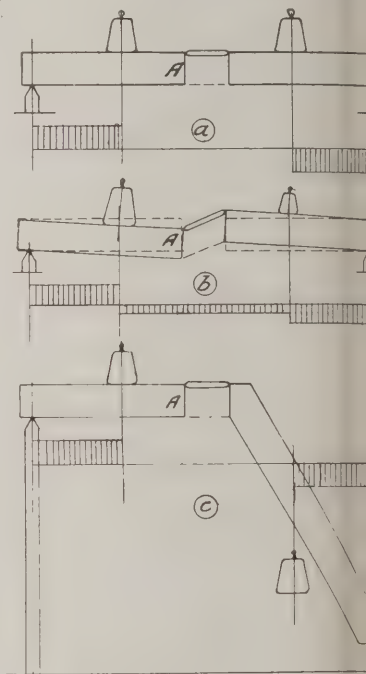


Fig. 14.

flange stresses are developed at A the structure will not collapse if a tie be provided to afford the necessary resistance to those flange stresses.

If the loads be unequal as at (a) otherwise unsymmetrical so that a balanced shear exists between the ends then a diagonal strut or tie must be introduced to resist the tendency to collapse in the directions shown by dashed lines under the action of the unbalanced shear. It should be noted that this balanced shear does not increase flange stresses.

At (c) the severed beam is arranged as a mansard. If the loads be symmetrical there is no tendency for the point to droop. There is, in fact, no vertical reaction at the knuckle, although the ends of the severed beam appear resting on it and transmitting to it half of their weight and load. When the loads are unsymmetrical as at (a) the vertical reaction on the knuckle is manifestly the unbalanced shear.

The stresses on the 7th floor main frame DC EF are somewhat more involved. If the frame ABCE be considered as one cranked beam of horizontal span FE, then obviously the floor beam would act as a strut opposing a vigorous resistance to the deflection of the inclined portion of the beam BE. Not only would the ends of the floor beam DC, when deflecting under load, bear assume a similar slope to that desired

ut DC would also shorten under load assumes a curved shape; and to that its efficiency as a strut would be ed. The difference, however, between the straight distance DC and the length of a banded girder would be nely minute. Even if the deflection as much as $\frac{1}{8}$ " it would be only $\frac{1}{80}$ ".

deflection which would be constant with a stress of $\frac{7\frac{1}{2} \text{ tons}}{\text{m}^2}$ in a rib

long and 10" deep can be ascertained from the formula—

$$\Delta = p \cdot 5^2 \times \frac{.083}{d}$$

"Principles of Structural Mechanics," 2nd ed., p. 199.)

Assuming the rib to be approximately equal to a girder under distributed load with partially fixed ends, p may be taken as the deflection Δ would be approximately $\Delta = \frac{26'25'' \times .083}{12'10''} = \text{say } \frac{1}{2}"$

is therefore reasonable to assume the girder, stiffened and assisted as by the concrete filler floor, will be capable of acting as a strut to prevent any serious or even appreciable deflection of the rib. The latter may be treated as fixed at C and E and subject to (1) a hogging moment from the beam AC, (2) to the direct compression from BC, (3) to the effect of its weight, and (4) to the effect of any shear stress at C.

As (1) and (2) can be obtained from calculations for AC, and the effect of (3) may be taken as the moments of an equal girder of span FE.

As regards (4) it is necessary to note the depression of the point C would be extra deformation of the frame and any load or reaction tends to depress C will be relieved by the presence of the frame ABC to such distance. If, therefore, the frame DCE be treated as an independent girder, with frame ABC removed, the calculated stresses will be too high.

Mansard Rib, Eighth Floor.

The reactions at A and C are as follows:

$$\begin{aligned} & \left(\frac{11 \times 8'75}{14'5} \right) + \left(\frac{5'6 \times 1'5}{14'5} \right) \\ & 4'29 + .58 = 4'87 \\ & \left(\frac{7'11 \times 5'75}{14'5} \right) + \left(\frac{5'6 \times 1'3}{14'5} \right) \\ & 2'82 + .502 = 7'84 \\ & 7'11 + 5'6 = 12'71 \\ & \text{Vertical shear at the knuckle} = 7'84 \\ & = 2'24 \text{ tons. The distance of} \\ & \text{of minimum shear from A} = \\ & \frac{4'87 \times 11'5}{7'11} = 7'8" \end{aligned}$$

Maximum BM which occurs at that point A =

$$\begin{aligned} & 4'87 - (7'8 \times .62 \times 3'9) \\ & = 38 - 19 = 19 \text{ ft. tons} \\ & = 228 \text{ inch tons} \end{aligned}$$

The BM diagram which is set up in the same way shows that the moments are approximately equal to those produced by an equally distributed loading. At point C be regarded as fixed or rigid and able to resist a reverse

moment approximately $\frac{WL}{8}$ then the maximum BM on the beam would be only

128 inch tons, demanding a SM of 17. The $8" \times 6 = 35$ lb. BSB shown has a SM of 27'6.

The most severe assumption with regard to the rib BC would be that of a rigidly fixed end at C, which would involve a stress of approximately $\frac{WL}{8}$

or 228 inch tons, and would require a section modulus of 30'5.

The $10 \times 6 = 42$ lb. BSB shown has a modulus of 42'3, involving a stress of $\frac{228}{42'3} = \frac{5'4 \text{ tons}}{\text{m}^2}$ at C, and a stress of $\frac{102}{42'3} = \frac{2'4 \text{ tons}}{\text{m}^2}$ in the centre.

The vertical shear at

$$\begin{aligned} & \text{C} = 7'84 \text{ tons} \\ & \text{" " B} = 7'84 - 5'6 = 2'24 \text{ "} \\ & \text{" " at centre of BC} \\ & = 7'84 - 2'8 = 5'04 \text{ "} \end{aligned}$$

Assuming the direct compression in BC to be the inclined resultant of the shear, or shear $\times \sec 15^\circ$ and the area of the 10×6 rib in cross section being 12'358 m^2 , the direct compression in tons $\frac{5'04}{12'358} = \text{shear} \times \frac{1'035}{12'358}$ or

$$\begin{aligned} \text{Direct compression at C} &= \frac{.65 \text{ tons}}{\text{m}^2} \\ \text{" " " B} &= \frac{.19 \text{ tons}}{\text{m}^2} \\ \text{" " " centre} &= \frac{.43 \text{ tons}}{\text{m}^2} \end{aligned}$$

The direct compressive stress + flexural stress would therefore be

$$\begin{aligned} \text{At C} & 5'4 + .65 = \frac{6'05 \text{ tons}}{\text{m}^2} \\ \text{" B} & \frac{.19 \text{ tons}}{\text{m}^2} \\ \text{" centre of BC} & 2'4 + .43 = \frac{2'83 \text{ tons}}{\text{m}^2} \end{aligned}$$

It would, however, be reasonable to assume that the direct compression, being merely the effect of vertical shear, has already been allowed for in the flange stress. In a horizontal girder the horizontal shear is not added to the flange stress to express the effect of any loading. It is recognised that flange stress is merely shear reappearing in a new direction and resisted. It would therefore scarcely appear to be necessary to add the two together in a cranked girder. Assuming, however, the enhanced stress of $\frac{2'83 \text{ tons}}{\text{m}^2}$

in the centre of BC, it is necessary to consider that member as an inclined post, and to ascertain that it is not too slender to satisfy the requirements of sub-section (21)C, which determines the maximum stress on a pillar according to its ratio of

$$\frac{\text{slenderness or length}}{\text{least radius of gyration}} = \frac{l}{rg}$$

Having regard to the great lateral stiffness of the horizontal joists and concrete filling of the mansard slope, it will be obvious that the actual greater rg of the section in the direction of its web will be much less than that of the joist and two half bays of fillers and concrete acting together.

Taking, however, the smaller radius of 1'36", neglecting the advantage of the filling, and also assuming that the rib has only one end fixed, the safe stress on a length of 130" would be

$$\frac{5'5 - 1}{40 \text{ rg.}} = \frac{3'1 \text{ tons}}{\text{m}^2}$$

which is greater than the maximum stress of $\frac{2'83 \text{ tons}}{\text{m}^2}$ in the centre.

It is possible so to construe the wording of the sub-section as to make the maximum stress applicable to the end C. The liberal assumptions on the side of safety permit even of this extreme view.

Eighth Floor Mansard.

Neglecting the presence of BC and regarding the 8th floor mansard rib CE and its floor beam DC as a cranked beam of horizontal span FE, the reactions at D and E are as follows:—

$$\begin{aligned} R_D &= \frac{12'28 \times 9'41}{16'65} + \frac{7'84 \times 2'16}{16'66} + \frac{4 \times 1'08}{16'66} \\ &= 6'95 + 1'02 + .26 = 8'23 \\ R_E &= \frac{12'28 \times 7'25}{16'66} + \frac{7'84 \times 14'5}{16'66} + \frac{4 \times 15'58}{16'66} \\ &= 5'33 + 6'82 + \frac{3'74}{4} = 15'89 \end{aligned}$$

The minimum shear occurs between D and C, and its distance from

$$D = \frac{8'23 \times 14'5}{12'28} = 9'32'$$

At this point the BM

$$= (8'23 \times 9'32) - \left(\frac{9'32 \times 4'66 \times 12'28}{14'5} \right) = 39'8 \text{ foot tons} = 477'6 \text{ inch tons.}$$

Again neglecting the material assistance afforded by BC, and assuming that the maximum reverse BM in CE will be approximately 477'6 inch tons, a SM of $\frac{477'6}{7'5} = 64$ is required. The addition of

$10 \times \frac{3}{8}$ flange plates to the 10×6 joist will give a SM of 69'2 and a stress of $\frac{6'9 \text{ tons}}{\text{m}^2}$

The shear at E = 15'89 tons.

" at C = 11'89 "

" in centre of CE = 13'89 "

The area of the compound being 19'9 m^2 the direct compression equal to the vertical

shear $\times \sec 15^\circ$ in $\frac{\text{tons}}{\text{m}^2}$ will be

$$\begin{aligned} \text{At E} & .83 \\ \text{" C} & .62 \\ \text{" centre of CE} & .72 \end{aligned}$$

and the combined direct and flexural stress

$$\begin{aligned} \text{At E} & \frac{.83 + 478}{69'2} = \frac{7'03 \text{ tons}}{\text{m}^2} \\ \text{" C} & \frac{.62 + 65}{69'2} = \frac{1'7 \text{ tons}}{\text{m}^2} \\ \text{" centre of CE} & \frac{.72 + 290}{69'2} = \frac{4'92 \text{ tons}}{\text{m}^2} \end{aligned}$$

The reverse BM from BC of 228 inch tons must not be forgotten. If it could operate beyond point C it would mean an additional stress of $\frac{228}{69'2} = \frac{3'5 \text{ tons}}{\text{m}^2}$ It

is obvious, however, that its actual effect will be materially affected by the presence of the stiffly-connected arm DC, and it would probably only operate in CE as shear.

Considering CE as an inclined column 100" long, with both ends fixed, and a least rg of 2'07, the permissible stress in the centre would be

$$\frac{6'5 - 100}{40 \times 2'07} = \frac{5'3 \text{ tons}}{\text{m}^2}$$

As before, the assumptions made neglect factors which materially strengthen the structure, and it is possible that the sections shown might be reduced.

(To be continued.)

CONCRETE AND STEEL SECTION

(MONTHLY.)

FLOATING CONCRETE CAISSONS.

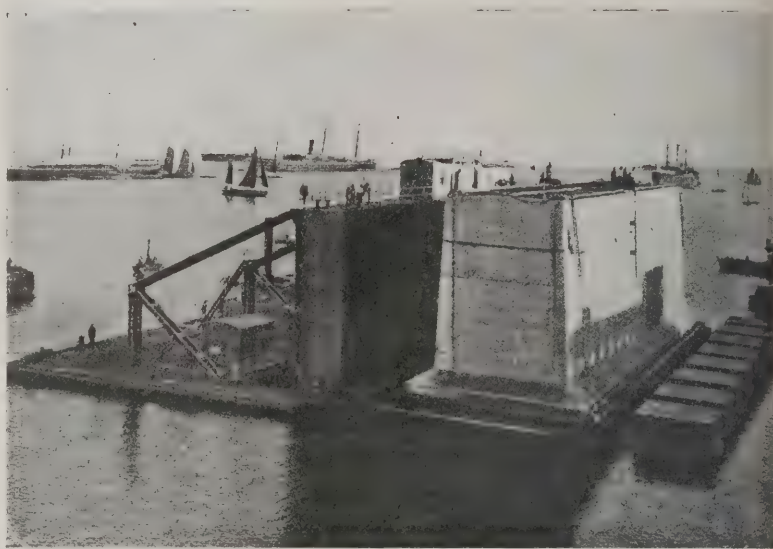
Floating concrete caissons for port and other subaqueous work were first constructed in 1905, since which date many developments have been carried out. They possess many advantages. Not only can they be built in the dry and thus become thoroughly cured before coming into contact with sea water (a most essential feature in the use of cement subjected to salt-water action), but their economy over earlier methods of such uses of concrete is marked.

The idea of using floating concrete caissons seems to have been a development from iron caissons. Thus the successful use of floating iron caissons in the construction of the west jetty at Bilbao during 1895-1902 led to the adoption of full concrete caissons in the construction of a breakwater and sea-wall at Barcelona in 1905.

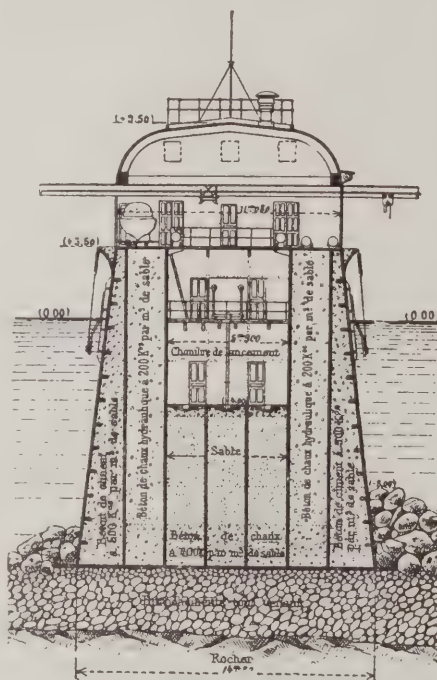
The iron caissons used at Bilbao were each approximately 42½ ft. long, 23 ft. wide, and 22 ft. high. After being built on the shore of the port they were put afloat and ballasted with concrete to a depth of 5 ft. from the bottom. They were then towed to and sunk into position upon a rubble foundation by means of water ballast. Twelve pre-moulded concrete blocks, each about 13 ft. by 9 ft. by 8 ft., containing 40 cub. yds. of concrete (equal to about 80 tons), were immediately placed in each caisson in order to obtain sufficient stability against wave action in the shortest space of time—a much quicker operation than if concrete had been used. The voids between the sides of the iron caissons and the box were then filled with grout. On top of the substructure thus prepared was built a superstructure in the form of a sea-wall. The time of placing and filling a caisson was about thirty-one hours. This undertaking appears to have been the pioneer in the use of such a mode of construction.

At a still later date (previous to 1900) the same mode of construction was used at Zeebrugge, in Belgium, except that the iron caissons rested directly upon the bottom of the sea, and not on a rubble foundation. The iron caissons in this undertaking were 82 ft. long, 29½ ft. wide, 28½ ft. high, and weighed about 4,500 tons when filled with concrete.

The most extensive use of reinforced concrete caissons in harbour development work appears to have been made in Holland, where in 1905 they were used in the



CAISSON ON FLOATING DOCK IN KOBE HARBOUR, JAPAN.

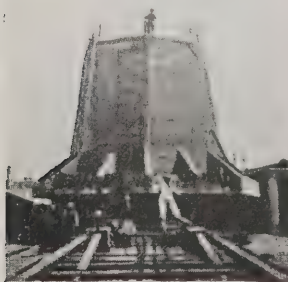


SECTION THROUGH TORPEDO TESTING STATION. NEAR TOULON.

rebuilding of a river-wall at Rotterdam that had become badly damaged. The piles were first driven along the face of the old wall and capped with heavy concrete caissons were constructed. The caissons were towed a distance of three miles to the damaged wall, where they were sunk upon the prepared foundation in such a way that two-thirds of the caisson rested upon the base of the wall and one-third upon the wooden piles. The caissons were then built up to the height of the old wall. The unusual success attending the use of floating concrete caissons in making these repairs led the engineers of Rotterdam to build depth caissons which would rest directly upon the sandy soil without any substructure of any type that has become standard practice for their river wall.

In France the first attempt with floating caissons seems to have been in connection with the construction of a torpedo testing station near Toulon. The caisson was of a truncated pyramid shape, was built in a dry dock, put afloat, and towed to its final position. The base of the truncated structure itself was 77 ft. long, 48½ ft. wide. The platform slab, which the main structure rests upon, was 75 ft. long, but 55 ft. wide, thus forming an outside the truncated structure. The height of the truncated structure is 11½ ft. of which is above the water line, the remaining 39 ft. 6 in. being submerged.

At Paris in 1911, in building a pier for a railway bridge over the Seine, four reinforced concrete caissons were first constructed on the river bank, launched at the end of six weeks of hardening, towed to their final position and then sunk. The caisson was 34½ ft. long, 14½ ft. wide, 14 ft. high, well reinforced in each direction. The walls were 6 in. thick at the bottom, tapering to five inches at the top. After being sunk the interior of



LAUNCHING OF LIGHTHOUSE CAISSON AT ALEXANDRIA.

was filled with concrete, the filling upon 12-in. concrete piles.

A striking example of the use of reinforced concrete caissons by English engineers is to be seen at Alexandria, in Egypt, where a concrete lighthouse was constructed in the form of a reinforced concrete caisson and floated out to its position some four miles from its place of construction. The base of the structure consisted of a seven-sided slab, 8 in. thick, reinforced with one 12-in. by 24-in. longitudinal beam and five 8-in. by 16-in. transverse beams. The axial dimensions of the caisson were 37 ft. by 41 ft. On top of the caisson a hollow tower some 45 ft. high was constructed. The shell or sides of the base were 6 in. thick, being strengthened with 12-in. vertical webs and 6-in. horizontal ribs. At the centre of the tower was placed a 12-in. by 12-in. square with 8-in. by 8-in. struts extending to the sides. A lantern tower, 36 ft. high, was constructed on top of the base.

The whole structure weighed 1,700 tons, with a displacement of 600 tons, resulting in a load of 1,100 tons on the sands. A 1:2:4 concrete with waterproofing material was used.

The most extensive use that has apparently been made of floating concrete caissons, excepting Rotterdam, is at Kobe, Japan, where large harbour improvements are under way at the present time. The construction of four new concrete reinforced concrete caissons—some 100 ft. long, 35 to 40 ft. wide, and 24 ft. high, divided into twenty open-top compartments by interior partitions, and weighing 1,900 to 2,400 tons each—are being floated in the dry on a pile structure on the shores of the harbour. After sufficient work the caissons are lifted off their pile supports by a specially designed floating crane, carried into deep water, and put in place by sinking the depositing dock and drawing it from underneath the concrete caisson. The caissons are then floated to and sunk in their proper places against the quay wall.

[Copy.]

"Walkerville, Ont., July 12, 1915.

"Mr. H. J. Stambaugh, Trussed Concrete Steel Co., Walkerville, Ont.

"Dear Sir,—Inasmuch as we consider the comparatively small amount of damage done to our factory by the dynamite explosion of June 21, 1915, to be due almost entirely to the concrete construction, we are glad to place the following facts before you, to be used as may occur to you.

"The explosion occurred at 3.05 a.m. on June 21. From the information gained by the authorities, the charge consisted of twenty-six sticks of dynamite, completely filling an ordinary suit case, except for the space required by two dry cells and a clock mechanism to discharge the same. The suit case was placed apparently about a foot or less from the brick retaining wall,

halfway between two concrete piers on the outside of the building, and directly under a solid concrete slab, which affords a foot-path from the pay-roll department entrance to the street. While, of course, the explosion was largely directed into the earth, still, the lateral effect was such as completely to blow out about ten to fifteen feet of the brick retaining wall, scattering the same over a space of ninety feet from the wall, towards the interior of the factory.

"Some fifty to seventy-five sashes were destroyed on all three floors of the building within a radius of one hundred feet of the point of explosion, and glass was shattered in several other parts of the building. However, apart from the total destruction of the concrete sidewalk slab under which the charge was placed, there was not one other particle of concrete so



REINFORCED CONCRETE RESISTS A DYNAMITE EXPLOSION.

A violent explosion at Peabody Plant, Walkerville, Ontario, shattered a brick retaining wall, windows, etc., but left the reinforced concrete practically uninjured.

Peabody's, Walkerville, Ontario, manufacturers of overalls and working clothes, have been reported to have received large orders for military clothing for the British Army. Some fanatic, learning of this, attempted to destroy the plant by dynamite in the morning of June 21. The violence of the explosion was so great as to blow out a brick retaining wall and destroy window-sash on three floors of the factory as well as in neighbouring buildings. The sound of the shock was distinctly heard across the river in Detroit.

The Peabody Plant is entirely of reinforced concrete construction, and, excepting the sidewalk slab, this concrete construction was not injured in any way. The cost for repairs was less than five hundred dollars. Work was not interrupted at the Peabody Plant, as all that was necessary was to clean up the shattered window-glass. The Peabody's feel that if the building had been any other construction of reinforced concrete, it would have been a total wreck, and they have expressed their satisfaction in the following letter received from Mr. Horace B. Peabody, secretary and treasurer:—



A REINFORCED CONCRETE BUILDING IN A DYNAMITE EXPLOSION.

Although about 15 ft. of a brick retaining wall was blown away, not one particle of the reinforced concrete of the building was so much as chipped.

much as chipped in any portion of the building. Owing to the above fact, the damage has been less than five hundred dollars, although the wreckage at first appeared to be very widespread.

"We have no hesitation in saying that it is our opinion that had this building been an ordinary constructed brick wall, the entire front would have probably been blown in and probably a large section of the floor space would have collapsed.—

Yours very truly,
THE PEABODY'S SALES CORPORATION, LTD.
(Sgd.) HORACE B. PEABODY, Secy. Treas.

REINFORCED CONCRETE FOR FACTORY BUILDING.*

BY H. C. JAS. CARRINGTON, M.C.I., M.I.M.E.

Apart from the first or capital outlay, the higher the cost of the factory building, the higher will be the taxations thereon. It therefore becomes necessary to view the capital outlay on factory buildings in terms of square yards of active earning floor area, against outlay, and everything that tends to reduce the cost side of the equation, and increases the earning area side, is a factor to be considered; but low cost does not always give highest efficiency, and efficiency is of first importance.

Providing for Extension.

When designing, suitable provision should be made to allow for natural growth and expansion in every part, without upsetting the position or relative areas of the various parts. The extra expense of costly alterations due to extension or development of the business can generally be avoided by making suitable provision when designing, and by arranging the installation of plant and equipment in such a way as will allow natural growth and expansion, without re-arranging the plant already put down.

It will be obvious from the foregoing that a full consideration or even a passing reference to all the points bearing on works design—to do justice to the subject—is impossible in the space of one short paper; it is therefore my intention to confine myself to the one section, viz., reinforced concrete construction.

Restraint by Bye-law.

Until recent years much more progress has been made abroad in the use of reinforced concrete than has been the case here in Great Britain, no doubt largely due to the restraining influence of the Building Bye Laws. The first London Building Bye Laws relating to reinforced concrete work came into force in November, 1911, and although a number of works in this material had been constructed in this country prior to this date, the unnecessary limitations imposed under the older rules retarded its wider adoption, and there are still, in my opinion, a number of unnecessary limitations which I hope to see removed in the near future.

The Fire Office Committee also, who have something to say in the matter, have issued rules which are much too strict, and in many cases prevent the use of reinforced concrete; for example, they say "No party wall shall be less than 13 in. thick," while a 9-in. party wall in ordinary brickwork is allowed.

Choice of Materials.

There are a number of points to be carefully weighed in deciding whether reinforced concrete is a suitable material for

any particular piece of work or not. I do not wish to infer that it is the most suitable method of construction for every case, and before a definite answer can be given each case must be carefully considered upon its merits.

Relative Cost.

In many cases the first cost will be found to be materially less than for ordinary brick and steel construction, especially for straightforward factory buildings, and perhaps a few examples of cases where competitive prices for the alternative methods of construction have been obtained will be of service.

The first case was a factory building with galleries and two-thirds north light.

1. For steel frame building with brick walls, corrugated iron roof, floor of wood joists and boards on steel bearers to galleries, and patent glazing to roof, the cost was 100 per cent.

2. For reinforced concrete building, and roof as No. 1, the cost was 92 per cent.

3. For reinforced concrete building, but with brick panels to walls, and with concrete floor, part flat, and part northern light, glazed as before, the cost was 89 per cent.*

4. As No. 1 but with corrugated iron walls, the cost was 89 per cent.

5. Wholly concrete, including foundations, walls, roof, gutters, and every detail where it was possible to use this material, the cost was 88 per cent.

The second case was for three floors only for a building 130 ft. long and 37 ft. wide.

1. For wood joists and boards carried on steel bearers the cost was 100 per cent.

2. For reinforced concrete floors the cost was 79 per cent.

The third case was a three-storey building.

1. Building with brick walls, floors of wood joists and boards on steel bearers, steel columns, and ordinary steel timber and slated roof, the cost was 100 per cent.

2. As No. 1. but reinforced concrete floors, the cost was 93 per cent.

3. Reinforced concrete walls with brick panels, reinforced concrete floors, steel columns, and roof as No. 1, the cost was 83 per cent.

4. As No. 3, but with reinforced concrete columns, the cost was 81 per cent.

The above figures will apply to buildings costing over £2,000. A building of less cost may be cheaper in some other form of construction. The walls will, in most cases, be found cheaper when constructed of reinforced concrete piers and brick panels than with solid concrete slabs.

The maintenance charges of reinforced concrete constructions are practically nil. After lengthy trial and the closest scrutiny of our chemists, architects, engineers, etc., it is agreed that reinforced concrete is, practically speaking, free from depreciation if constructed in accordance with the latest approved practice.

Durability of Concrete.

Concrete constructions carried out during the Roman Empire are quite sound to-day after a lapse of 2,000 years, entirely without maintenance, and experts are agreed that the Roman construction cannot be compared with modern, as regards quality of material or thoroughness of construction.

This is a very important consideration, and often not taken fully into account. I need only refer to the instance of the Forth Bridge, upon which, as is well known, a staff of painters are constantly engaged. The cost of material and labour in maintaining such a construction is obvious.

Nothing is absolutely fireproof in the extreme sense of the word, but reinforced concrete is the nearest approach to it that has yet been evolved. The reinforcing is effectually protected by the concrete, and there is nothing combustible about the construction, and it is not liable to dangerous expansion and contraction to exothermic action, even when heated and suddenly cooled.

In the case of fire the worst that can happen is that the face of the concrete when suddenly quenched with a strong stream of water from the fire hose is liable to spall off, but it is rarely or never found that the concrete beyond the covering reinforcement suffers any material damage. Any such covering can be broken off where loose, and the building erected restored after. It can therefore be claimed that reinforced concrete will rival any other comparable method of construction.

Hardness of Surface, and Impermeability.

The clean, hard, and practically impervious surface which reinforced concrete presents is infinitely superior to the methods employed for factory construction, especially in the matter of floors. It is much easier and cheaper to conform to Home Office requirements to lime wash the underside of concrete floors, with large surfaces, and comparative freedom from cross beams, than the usual method of wood joists, with their necessary struts, boards and the painting of steel beams, etc.

The impermeability of concrete construction, apart from water tank construction and similar works, where watertightness is an essential feature, is sometimes an advantage in warehouse and similar buildings.

After careful investigation it was decided to construct a grain storage building of reinforced concrete on the river side of Bath. The owners required the walls to be composed of materials through which the grain could not draw moisture. To test the present results have quite justified the selection. A series of tests carried out by the New York City Board of Water Supply, from which it was found that Portland cement concrete in proportions of 1:2:3:6 or richer, was watertight up to 40 lb. per square inch, and a mixture of 1:3:3:6 was watertight up to 80 lb. per square inch, which was the limit of the test.

Hydrated lime 1:3:3:6 and richer is an impervious concrete. The 1:3:3:6 mixture of Portland cement concrete gives a compression value equal to 2,000 lb. per square inch at three months, as against 1,330 lb. per square inch for hydrated lime of same proportions, so that while hydrated lime is slightly cheaper, for most constructions it would pay to use Portland cement on account of its higher strength.

The addition of small quantities of clay increases the impermeability of concrete, but at the expense of the strength, but clay should be ground to pass a 100 mesh sieve before it should be mixed with concrete, it is doubtful if it is economical to use clay except in cases where ordinary brick clay could be used mixed with water.

Saving in Space.

The saving in space that can be effected by the use of reinforced concrete is more than is generally appreciated. For example: A three-storey building would require a 22½-in. wall with piers 22½ in. by 9 in. additional, can be replaced by a wall 9 in. thick and 15 in. by 9 in. additional, which means that the inside floor is 2 ft. 4 in. wider for the same outside dimensions.

To make more clear what this means

* Extracts from a paper read before Birmingham Association of Mechanical Engineers.

take an instance of a building say 100 ft. long and 30 ft. wide, with 22½-in. walls. The floor area equals 600 sq. yd. The same building constructed of reinforced concrete with 9-in. walls would give an area of 660 sq. yd., which equals 11 per cent. increased floor area, and as this is generally accompanied by a reduction in the capital outlay for the building, which is also the base for the assessment of rates and taxes, the matter is one of much more importance than is often given by a consideration of capital outlay in building alone.

It has been claimed that reinforced concrete columns are bulky, and occupy more space than steel or cast-iron columns. This is true, but as the latest building laws insist on steel and cast-iron columns being protected against fire, this objection no longer holds.

The additional light-reflecting effected by having the underside of floors with unbroken surfaces, that can be kept clean and white, is a distinct advantage over the open wood joists with their necessitous strappings and floor boards.

Another important consideration in all factories where machinery is used is the reduction or reduction of vibration, which in the case of high speed machinery is often very considerable. Solidarity of construction is undoubtedly the most certain way of reducing vibration, apart, of course, from the question of perfectly balancing the rotating parts, which is a matter apart from the building construction. The nearest approach to solidarity is reinforced concrete construction, which, by being of a monolithic construction, free from joints as ordinarily under-stand in buildings, is also a very effective barrier of vibration.

LIGHTING IN FACTORIES AND WORKSHOPS.

In a memorandum to the first report of the Departmental Committee on Lighting in Factories and Workshops, it is observed that the development of industrial operations and the introduction of many new methods of illumination during the last few years have served to emphasise the need for statutory requirements relating to lighting of workshops and factories, in addition to those which already exist in relation to heating and ventilation. The recognition that defective illumination may be a contributory cause to accidents, may be injurious to the health and comfort of workers, and may exercise a detrimental effect on the output and quality of work has led to a general interest in the question of industrial illumination.

The present Committee was appointed to enquire and report as to the conditions necessary for the adequate and suitable lighting (natural and artificial) of factories and workshops, having regard to the nature of the work carried on, the protection of the eyesight of the persons employed, and the various forms of illumination. This memorandum is intended as a summary of the principal contents of the report and appendices; reference to the report is necessary for the full appreciation of the reasons which have led the Committee to their conclusions and of the facts on which they are based.

In the United Kingdom no general provisions in regard to lighting (analogous to those regarding heating and ventilation) are contained in the Factory Acts, although adequate lighting in general terms is included among the conditions to be satisfied in the design of ground bakehouses, and is required

in certain dangerous trades. On the other hand, the codes of all the chief European countries, the United States, and India contain provisions requiring adequate lighting in factories. The appointment of the Committee in regard to Industrial Lighting thus marks an entirely new departure in this country. The novel nature of the inquiry entailed special methods of investigation.

In view of the wide ground covered by the terms of reference it was considered advisable to limit the enquiry in the first instance as far as possible to the engineering, textile, and clothing trades. Evidence was received from fifty witnesses, including H.M. Inspectors of Factories and representatives of various trade associations and scientific and technical societies. The members of the Committee also paid a series of visits to various industrial centres, eighty-five works being visited. In connection with these visits about 4,000 measurements of illumination were made in 163 rooms in 57 factories, the data, as a rule, being prepared previously to the visit. In this way the members were able to form a clear conception of the conditions represented by a certain numerical value for the working illumination and to compare this with the figures mentioned by various witnesses and found in the existing literature on the subject. Certain experiments bearing on the standards of illumination required for various purposes were also carried out at the National Physical Laboratory.

The enquiry showed that there has been a great advance in methods of illumination, but various defects were met with which are enumerated in the report. In taking evidence and in the study of existing literature the Committee endeavoured to obtain particulars of the effect of unsatisfactory lighting.

A statistical enquiry into the number of accidents during each month throughout the year points to the conclusion that inadequate lighting is a contributory cause of accidents. This is confirmed by the evidence of witnesses, regarding accidents in foundries, shipbuilding yards, and cotton mills, and by the statements of the Accident Offices' Association, which embraces most of the insurance companies interested in the Workman's Compensation Act.

Complaints of eye strain, headache, etc., attributed to insufficient lighting are common, and while an exhaustive medical enquiry would be necessary to establish the connection between these defects and inadequate lighting, there is a general impression that unsatisfactory lighting is, in various ways, prejudicial to health. It is also recognised that insufficient light adds to the difficulty of the proper supervision of work, and of the maintenance of cleanliness and sanitary conditions generally. Witnesses gave specific instances of the effect of improved lighting in increasing the output and improving the quality of work turned out.

From the evidence taken it is apparent that there is a general consensus of opinion as to the economic and hygienic advantages of adequate and suitable lighting. That this opinion is based on experience is shown by the great improvement in lighting which has taken place during recent years, and is still continuing, and in modern factories good lighting is now regarded as one of the most important factors contributing to industrial efficiency. On the other hand many employers have lagged behind in the general advance. This refers especially to old factories, and it is obvious that any requirement which would tend to bring such places up to the level of more progressive firms would be

beneficial, not only to the operative by improving his working conditions, but also to the employer himself by increasing his output and by improving the quality of work. Light is a cheap commodity and little or no hardship should result from such a requirement, if gradually and sympathetically enforced. The general recommendations of the Committee are briefly summarised in our editorial columns.

The following four recommendations are also made: (2) Over the "working areas" of workrooms the illumination measured on a horizontal plane at floor level shall not be less than 0.25 foot-candle, without prejudice to the illumination required for the work itself. (3) In all parts of foundries in which work is carried on or over which any person is ordinarily liable to pass, the illumination measured on a horizontal plane at floor level shall not be less than 0.4 foot-candle. (4) In all parts of factories and workshops (not included under recommendation (2)) over which persons employed are liable to pass the illumination measured on a horizontal plane at floor level shall not be less than 0.1 foot-candle. (5) In all open places in which persons are employed during the period between one hour after sunset and one hour before sunrise, and in any dangerous parts of the regular road or way over a yard or other space forming the approach to any place of work, the illumination on a horizontal plane at ground level shall not be less than 0.05 foot-candle.

These values are suggested without prejudice to the special illumination required for the carrying out of the work, which naturally varies greatly according to the nature of the operations. At present the Committee are not prepared to recommend standards of illumination for these purposes, which require further investigation.

In Recommendation (6), provision is made for exemption of individual cases, and of factories to which the above requirements could not be applied, and the case of shipbuilding yards is to receive separate consideration.

Finally, in Recommendation (7), suggestions are made for the periodic cleaning of windows.

In conclusion the Committee point out that the minimum values prescribed are considerably lower than those proposed by many witnesses, and are also lower than those found to exist in the majority of factories visited. In many cases manufacturers would naturally prefer to provide a substantially higher value than that indicated. The intention has been to propose values which can be adopted as a practical legal minimum without causing hardship, and would serve the purpose of raising the level of illumination in those factories which are behind modern practice in regard to methods of illumination.

The Committee did not feel justified in drawing any distinction between direct, indirect, and semi-indirect lighting, nor between systems which differ in the colour composition of the light. Similarly, the standards are intended to apply equally to natural and artificial lighting; that is to say, when the natural illumination falls below the prescribed limits, it must be supplemented or replaced by artificial illumination.

The data given in the appendices will be of service to those engaged in designing new factories and in examining the adequacy of lighting in existing buildings. At present there are few collated data of this character available, and the desire not to withhold them longer from publication is a further reason for the submission of a preliminary report at this stage.

NEW TECHNICAL COLLEGE AT DONCASTER.

The Mayor of Doncaster, Councillor S. Balmforth, has declared open the new Technical College, which has been erected at a cost of some £13,000. Red pressed bricks with Cullingworth stone facings are the materials used, except where glazed tiles have been introduced to give relief. The main corridor forms a spacious hall, and the moulding and skirting of the walls are of solid oak with oak dados. The library is about 25 ft. by 30 ft. At each end of the corridor are staircases of concrete and other fireproof material, leading to the upper storey and also to the basement beneath. The upper storey is almost a replica of the one below, inasmuch as it has a similar corridor running its full length, with class-rooms on each side. One of these rooms is set apart for cookery lessons. Next to it is the laundry. Then there are the chemistry classrooms, the chemical laboratory, and a separate room for the storage of optical instruments and balances. Apart from the main building, and separated from it by two cycle storing houses, are the engineering workshops.

The foundation of the new building was laid on Tuesday, September 23, 1913. The war brought a scarcity of labour, and an increase in the prices of materials. Mr. W. P. Schofield, of Leeds, was the architect, and the work has been carried out by Messrs. Paul Rhodes and Co., of Leeds.

The mayor, in performing the opening ceremony, pleaded with the youth of the town to make the best possible use of the college, remarking that after the war England, by the aid of technical education, had a great chance of building up the greatest trade and commerce in the world.

BUILDING AND ECONOMY.

Much that is wise, and more that is foolish, comments a leader-writer in the "Northern Daily Telegraph," has been written on many of the suggestions made for reducing expenditure. What has to be kept in mind is that there is no economy in what affects detrimentally industries or callings of any kind by which workers earn their living. The means for carrying on the war have to be found, and this is only possible if industries, commerce, and business of all kinds are maintained with as much activity as the circumstances permit. All recognise that sacrifices are called for, and, as a rule, these are being made ungrudgingly, but we have at the same time to guard against any policy that would interfere with necessary business. The Parliamentary War Savings Committee have made many admirable suggestions, but it is not surprising that there are some which do not command universal acceptance, and the Committee is not likely to resent any criticism calculated to be helpful.

For example, Mr. Ernest Newton, President of the Royal Institute of Architects, has called attention to the recommendation that "no one should build a house for himself at this time," and that "decorations and enlargements should be cut down as much as possible." Mr. Newton suggests that if this recommendation is carried too far it may have "disastrous, and perhaps unforeseen effects." He is all in favour of economy to help to pay for the war, but he reminds us that "a strong point in our financial position is that even during war time our industries are kept going so far as possible and thus every one is able more

or less to pay his way." His point is that it is not economy to save in one direction what is lost in another.

There is building and building. Some of the work—the most costly probably—can be deferred with safety, even if regretfully, but the diminution of the building of houses for the people, in view of a proved scarcity and the overcrowding in many of the cities and towns, and in villages as well, would be nothing short of a peril. Had the people been better housed there would not have been so many failures to pass the doctors by men offering for enlistment. Lord Rosebery long ago, in a speech on the subject, warned the nation that it was impossible to expect a healthy, vigorous race to be reared in slums and insanitary areas. Expenditure on improved housing would prove a double blessing at such a time as this. The houses are needed, and the work would be helpful to the building trade, now that operations on public buildings and other municipal improvement schemes are suspended.

NEWS ITEMS.

Hove to Have a Pier.

Although Brighton possesses two pleasure piers, up to the present the sister town of Hove has had no such luxury. Hove Council have resolved to recommend the approval of a general scheme for the erection of a pier as soon as the war is over. Approval was given, subject to full details of construction and material being submitted and passed by the Council.

Huge Housing Scheme for Darlington.

The "North Star" claims to be in a position to state that it is practically certain that a thousand workmen's dwellings are to be built in Darlington at once, and a special meeting of the Darlington Master Builders' Association has been held to consider ways and means of responding to the call. The class of house to be built will involve an expenditure of £200 on each house, without calculating the cost of the land. In round figures this means that a quarter of a million of money will be spent in the town during the forthcoming autumn and winter months. It appears that the chief difficulty which the local builders will have to contend with will be that of obtaining the necessary labour, but this will have to be surmounted.

Roman Pottery Unearthed.

The Guildhall Curator (Mr. Bernard Kettle) reports that when the old General Post Office in St. Martin's-le-Grand was demolished a large series of Roman rubbish pits was disclosed. The lowest parts of 120 of these were carefully excavated. A few whole pots and many thousands of fragments of Samian and coarse pottery were found, besides building materials, whetstones, beads, knives, coins, and other small objects. Most of the holes belong to the period between A.D. 50 and 200, and by the association in the same hole of datable with undatable pottery light has been thrown upon many types of the latter. Last summer, while the buildings 3-6, King William Street, were being demolished, another series of five large Roman pits was uncovered. From the fragments thus obtained nine Samian vessels of the first century have been pieced together, and these are now in the Guildhall Museum. These include a decorated vessel finer than any previously found in London, and two specimens of a shape unknown hitherto in England. A lamp, two coins, and other objects of pottery and bronze, were also obtained from this source.

A Captain Cook Memorial.

Out of the surplus available after erection of the Captain Cook memorial last year in St. James's Park, near Admiralty Arch, the Captain Cook National Memorial Committee, under auspices of the British Empire League, have erected a memorial tablet on a school at Great Ayton, in Cleveland, where the great navigator received his education. This tablet was formally unveiled by Mr. Herbert Samuel, the Master-General, who is member for Cleveland. A memorial scholarship has been established at the neighbouring village of Marton, which was Captain Cook's birthplace.

University Training for Master Builders.

As noted under "Editorial" last week, a course has been arranged at Sheffield University, in consultation with the Master Builders' Association, to meet requirements of students who are working with the object of becoming master builders or of taking other important positions in building businesses. The course has been designed on the lines of the Works Pupils' Certificate Course in engineering, the students attending the courses of study at the University during the winter six months (October to March inclusive), and at the works during the summer half-year (April to September inclusive). A Works Pupils' Certificate (Building Section) is awarded to students who complete the three years' course and pass the necessary examinations. It is considered that by taking this course a student will acquire that knowledge of scientific and theoretical matters which will enable him to benefit more fully in his practical work during apprenticeship, and will be of still greater value in later years. The next session begins on October 1 next, and the entrance examinations for candidates under twenty years of age, who have not passed an appropriate examination, will be held on September 20 and October 1. This matter was commented upon in our Editorial column last week.

Projected New Works in Scotland.

Additions are to be made to Bridge Hosiery Works, Ardrossan, for Mr. J. Brownings, Ardrossan.

Additions are to be carried out at the Presbytery House, Great Clyde Street, Glasgow, for Archbishop Maguire. W. R. Watson, 95, Bath Street, Glasgow, is the architect.

Plans have been passed for the erection of a drill hall at the corner of Glasgow Street and Rose Street, Glasgow, for the School Board of Glasgow.

The premises at 36-62, Renfield Street, and 236-252, Hope Street, Glasgow, recently destroyed by fire, are to be erected. Messrs. Burnet and Boston, Glasgow, are the architects for the restoration.

The District Committee of the Master Builders' Ward of the County of Lanark, at a meeting held in the County Buildings, Glasgow, had under consideration the desirability of making application to the Government Board of Scotland for authority to prepare a town-planning scheme in respect of land lying within the parishes of Cambuslang and Old Monkland. The extent of the area included in the scheme is about 5,616 acres. The meeting, considering the proposal, unanimously resolved to make the application to the Government Board, and instructed the clerk to take all the necessary steps in the matter.

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A CINERARIUM.

(From Piranesi.)

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EDITORIAL.

AN entirely rewritten issue of "Rivington" is a striking reminder of the distance travelled, and of the experience and the impedimenta accumulated, on a journey of forty years' duration. As Mr. Reginald Blomfield recalls in his introduction to the new edition of this classic, it was in 1875 that "Rivington" first appeared. It was of immense service as a collection and digest of the data with which the builder was then being newly called upon to deal in a more scientific spirit. Classes for the study of building construction were becoming numerous, and it was with an eye to their needs that the Notes, themselves an emanation of the new spirit, were first prepared. But, as to their first state, they have been long outgrown, and mere revision became hopeless. Nothing short of complete rewriting could meet the vastly changed conditions. "In the last thirty years," as Mr. Blomfield observes, "building construction has developed in many directions. Reinforced concrete and steel-framed buildings have introduced new factors which must be reckoned with seriously by the architect, and indeed have become indispensable for certain classes of buildings. There are besides many inventions in detail and material, which, properly handled, may contribute to efficiency and economy in building, and with which it is therefore necessary for the architect to acquaint himself. Indeed, the number of these discoveries has added greatly to the complexity of the modern practice of architecture." Hence the rewriting of "Rivington" is as the setting-up of a milestone.

A cautionary word that Mr. Blomfield advances strikes one as being apt and opportune. He would have us discriminate duly between sound construction and good architecture. "A building may be very well built, may even answer its practical purpose, and yet be awkward, ugly in form, vulgar in proportion, unpleasant in colour, and bad in taste, and architects should never lose sight of the vital quality which differentiates architecture from mere construction. . . . Whereas to the engineer a mastery of the problems of construction is the final end of his studies, with the architect this mastery is a means to an end, a part only (though a vital part) of the technique of his art." That should be, but alas is not, mere commonplace. Granting that it is a truism, it is one that needs persistent iteration, and it is very usefully put in the forefront of a work that necessarily lays more stress on construction than on design. It is fatally easy, in practice, to over-stress either member; but since it is probable that the war

has prescribed for us a period of intense practice the greater danger clearly lies in that direction.

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It rests largely with our architectural schools to keep so-called practicality in its proper place, to give it no more and no less than its just weight and proportion. To allow encroachment on the domain of art, to set up therein some monstrous war-eared idol of practicality or "efficiency," would mark a serious apostasy from the nobler faith which the schools have done and are doing so much to serve in purity. Certainly, as Mr. Blomfield says, an architect must know how to build; but how much more than a mere mastery of construction methods and materials this knowledge implies. Acquaintance with material resources must subserve and enlarge, not override and belittle, the capacity for designing. It is necessary, now as always, to avoid the common confusion of end and means, of form and substance. Architectural educationists are probably less in need of this reminder than are those of any other department of training. In other systems of training, it is, generally speaking, insufficiently recognised that the imagination can be overdeveloped or dwarfed, disciplined to fine issues or allowed to run to riotous excess. For its due exercise and orderly development, the architectural schools have over some others the advantage of a tradition enforced by monumental examples. If they may continue to cherish it in spite of any overwhelming wave of utilitarianism that may be sent by this convulsive war is an ardent hope that it may fulfil itself if we hold fast to it.

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It is decidedly heartening to notice, as may be seen from the digest, appearing in a later page of the present issue, of some of the newly issued educational programmes, how gallantly the various schools of architecture and cognate institutions are keeping the flag flying. Little or no abatement of zeal and energy, and hardly any curtailment of resources, are observable in the new prospectus although it is obvious that war service has claimed most of the pupils who, under normal conditions would now be enrolling for the autumn and winter educational campaign; has claimed, too, very many of our most able professors and teachers, whose ability is being turned to excellent national account whether they are still young enough to go into the field, or whether, their "high brows" having grown grizzled, they are giving the country the benefit of their skill and wisdom in equally useful and equally arduous though less exciting occupations. But

from which they have been temporarily withdrawn is being carried on in the same splendid spirit. Education is now more clearly seen in its aspect as a collective endeavour, and is being pursued with less regard to individual aim, and more of the larger view of national unity. Teachers and pupils alike have come to a more vivid realisation that they are working not exclusively for themselves, nor for their country alone, but for their country also. Would that the manual workers were imbued with the same spirit!

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to the supreme importance of industrial education, our excellent Paris contemporary "Le Figaro" has put the case with almost epigrammatic point. In spite of the frightful carnage of the war, writes the editor, M. Georges Devaloy, industry is fraught with even more serious issues. Knowing that the Barbarians are powerful because they have industrialised war, he cites the words of another French writer that they threw themselves into Belgium less from strategic necessity than with the object of seizing the country's industrial riches," and thereafter of confiscating the richest mineral regions of France. Thenceforward that lust to possess their neighbours' industrial resources was the most powerful motive which actuated the Huns in making war. They coveted the world's wealth because, arguing in the manner of the purblind Bernhardt, they felt that, by educating themselves to a high degree of industrial efficiency, they were therefore the most fit people to command the lion's share of all the world's resources. Their industrialism—a more aggressive and more sinister thing than industrial technical education—having filled them with an enormous conceit of themselves, they felt equal to any task, however formidable. That they were grossly mistaken in their bumptious self-estimation, that they are receiving the severest lesson of history that ever crushed out ignoble ambition, that not discredit education itself, but only its misapplication. If what would nourish other people has poisoned the Germans, that is because of an inherent flaw in the German constitution.

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When we find our French contemporary advocating industrial education, in spite of its having turned disastrously in its misapplication by the Germans. He knows well that education tempered with common sense and common honesty is a tremendous force for good—is, indeed, vital and essential to the existence of a nation. He therefore urges that it shall be encouraged in France with redoubled ardour, and in so doing he adopts precisely the same line of argument as we have taken in a preceding note, which was written before we saw the article in "Le Figaro." Aviation having become "the fifth arm," M. Devaloy holds that industry should be regarded as being called "the sixth arm." Business, in effect, should be vigorously prosecuted not from the merely individual view of personal profit, but as an element of strength for the nation. No man should hold himself apart and work for his own private interest. "Every career that one adopts is a duty that one assumes." This war, he holds, has demonstrated the preponderance of industrial power in determining value. An intelligent worker renders his country as important services as a soldier, and not only in war time, but in time of peace. In the present educational session that is just beginning, teachers and pupils alike remain to us will be imbued with this newer and nobler view of education.

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A list of wounded members of the Société des Architectes de l'Ecole Spéciale d'Architecture occurs the name of the president of the society, M. Colle, Chevalier de la Légion d'honneur et du Mérite Agri-

cole, lauréat and member of the Société Centrale des Architectes. On the first day of the war, M. Colle, as an officer of reserve, holding the rank of commandant, went to the front, and on August 24, 1914, he was wounded at Saint-Amand. On October 20 he was disabled by the poison-gas from a shell. He was then colonel of the 25th Regiment. Having now completely recovered, he is acting as instructor to the 124th Regiment at Laval, but is expecting to return soon to the front. Of several other members of this society who have been injured in the war one has been rendered totally deaf by the explosion of a marmite, and another has become blind as a result of disease.

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A proposal, by a correspondent of the "Daily Graphic," to use the Victoria and Albert Museum as a hospital—"all portable objects of art could be stored away in the vast vaults beneath the museum, while those too large to be moved could be boarded up"—represents one of those rather absurd exaggerations of the patriotic spirit that in war time are inevitable and innumerable. In our own columns we published, it is true, a fortnight ago, a suggestion from a correspondent that the halls of the City companies should be devoted to national service, but that was a comparatively rational proposal, and its adoption would make maltreatment of the Victoria and Albert Museum unnecessary; as, indeed, it is already. There is no lack of large buildings that, doing at present no national service, might be profitably used as hospitals or barracks, and there is no lack of land on which temporary hospitals could be rapidly built; such hospitals, indeed, when well designed and hygienically constructed of the light materials that are plentiful, cheap, and efficient, and being situated *en plein air* amidst pleasant and invigorating surroundings, afford the sick and wounded the best possible chance of speedy restoration. Fantastic proposals like those under notice may therefore be regarded as so many exercises or perversions of ingenuity. Sordid-minded utilitarians who hate art, seeing in it nothing but a foolish waste of energy and expense, are always with us, and the war has given them an unexampled opportunity for vaunting their ignorance of its functions in national life. But we should be indeed a poor-spirited and short-sighted people if we allowed ourselves to be driven by the exigencies of war into the state of barbarism that the misuse of our museums would represent.

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An assemblage of Burns statues would make a small regiment (whose units might easily be taken for a band of brothers, not with identical features, but showing a fairly strong family likeness), and they are as ubiquitous as Scotsmen. No Scottish community is complete without its Burns Club, and the Burns statue follows as a matter of course. In the garden opposite the Savoy and Cecil Hotels, on the Victoria Embankment, the inevitable statue of "rantin', roarin' Robbie" finds itself in the corrective if uncongenial company of Henry Fawcett, the blind statesman of blandest decorum, and of Robert Raikes, the founder of Sunday-schools! There is a Scottish Society at Halifax, Nova Scotia, and it naturally feels an intense yearning for a Burns statue. Why they did not have one long ago is explained implicitly in the confession that "an original work is beyond the society's power"—power of pocket *bien entendu*, for no Scottish community would admit lack of artistic skill. They have asked permission to adopt the design of the Ayr statue, which was modelled by Mr. G. A. Lawson, of London, and unveiled in 1891, the cost being £2,500. As it happens that the moulds are still in existence, the Halifax society will probably be able to obtain this satisfaction for their souls quite inexpensively. We applaud their national spirit, but nevertheless feel justified, on general principles, in suggesting to sculptors the expediency of smashing their moulds.

HERE AND THERE.

IN the holiday interval of a fortnight since I last concerned myself with these discursive notes the Zeppelins have given us a turn of destruction. If I were a seer and knew that next Tuesday night the soulless marauders would drop a bomb straight on the dome of St. Paul's I might get ready now some good architectural "copy," which would be dramatically topical the next day, but these are matters about which one cannot even make a guess; the awful thing falls from the blackness overhead, and it is all chance whether there is but a splash in the water, or a turnip field is disturbed, or houses are shattered. So far, no London building of any architectural importance has been hit, but of course there is no saying what may happen between the time when this page leaves my hands and the time when the reader's eye lights upon it. In an endeavour to be tremendously topical, I might hazard that Westminster Abbey or the Albert Memorial, or the R.I.B.A. premises received a few hundred pounds of T.N.T., and as one thing is as likely as another I will take a relic of antiquity which is set on London's Embankment—the Needle which was fashioned before Homer was born, before Troy had fallen, before Solomon's Temple was built.

Everyone knows in broad outline how that monolith of Egyptian granite was brought across the seas, lost in the Bay of Biscay, and finally set up on Bazalgette's magnificent river wall, but there are many details about Cleopatra's Needle which are not generally familiar, and I have thought them of sufficient interest to be set down here. To begin with, let it be recalled it was the Battle of Alexandria that first placed the Needle in English hands. For centuries it had lain prostrate on the sandy shore of the Bay, near its erect sister, the obelisk which in later years was acquired by the United States, and now stands in Central Park, New York. The idea of taking it home as a commemorative monument of the successful war against Napoleon in Egypt was warmly supported by the Army and Navy, to such an extent, indeed, that the sum of £7,000 was subscribed by officers and men towards the cost of the undertaking. The proposal was to build out a pier and move the obelisk through this into the end of a vessel. The work of building the pier was actually carried out in part, and a sunken French frigate was raised for the purpose of receiving the monolith. The Fates, however, were not propitious, for a gale arose, which washed away the pier, and as shortly afterwards the army itself moved off, the scheme came to an inglorious end. It was many years subsequently that the Viceroy of Egypt, Mohammed Ali Pasha, conceived the idea of presenting the obelisk to the British nation as some acknowledgment of the handsome equipment of his corvette, the *Africa*, and the gifts which George IV. had sent to him. The Viceroy's offer was gratefully accepted, but nothing was done towards bringing the obelisk home, and it appears to have been quite forgotten till 1832, when the matter cropped up in Parliament. Then came a further lull of thirty years, when it was suggested that the obelisk should be erected in Hyde Park as a memorial to the Royal efforts of Prince Albert in connection with the 1851 Exhibition, but that suggestion, too, came to naught. The scheme which finally reached fruition was carried out in the 'seventies.

Lieutenant-General Sir James Alexander had seen the Luxor obelisk in the Place de la Concorde in 1867, and this reminded him of the one belonging to the British nation which lay buried in the sands of Alexandria. He set to work on a project for bringing the latter home, being spurred by the information that the owner of the foreshore was proposing to break up the obelisk for building material; this proposal being

but the consummation of what had been going on many years previously. A writer in "All the Round" in October, 1859, says: "The last time the obelisk a Briton was sitting upon it knocking with a hammer enough of the inscribed stone for self and fellow travellers. I expostulated with fellow, and reminded him that that wonderful re bygone days did not belong to him, but had handsomely presented to the British nation, and therefore belonged to it. 'Well, I know it do answered,' and as one of the British nation I am my share of it.' " This by the way. To proceed Lieutenant-General Sir James Alexander's e The gallant soldier tried hard for several year kindle interest in his project. He went to Egypt 1875, and came home with fresh zeal for raising n for the undertaking. His idea was to canvas City, but he was saved all trouble when, me ing the matter to Professor Erasmus Wilson, celebrated skin specialist offered to bear the cost himself. The idea having thus taken pra shape, and the necessary funds being forthcomi sorts of schemes were put forward for handlin monster, which, bearing in mind that it weighed 186 tons, was no easy task: albeit the Egyptians selves had tackled the job. I have no space into these many schemes, though they are attr from the point of view of civil engineering. It suffice to say the plan which was ultimately ac was that of a Mr. Dixon, who, however, unlike tana at Rome and Le Bas in Paris, has passe gotten and unhonoured. Dixon on January 30, signed a contract for £10,000 with Erasmus V for which sum he undertook to bring the obelisk and set it up on the banks of the Thames; the b this arrangement being, as Dickens says, "No o no £10,000." As things turned out, the contra

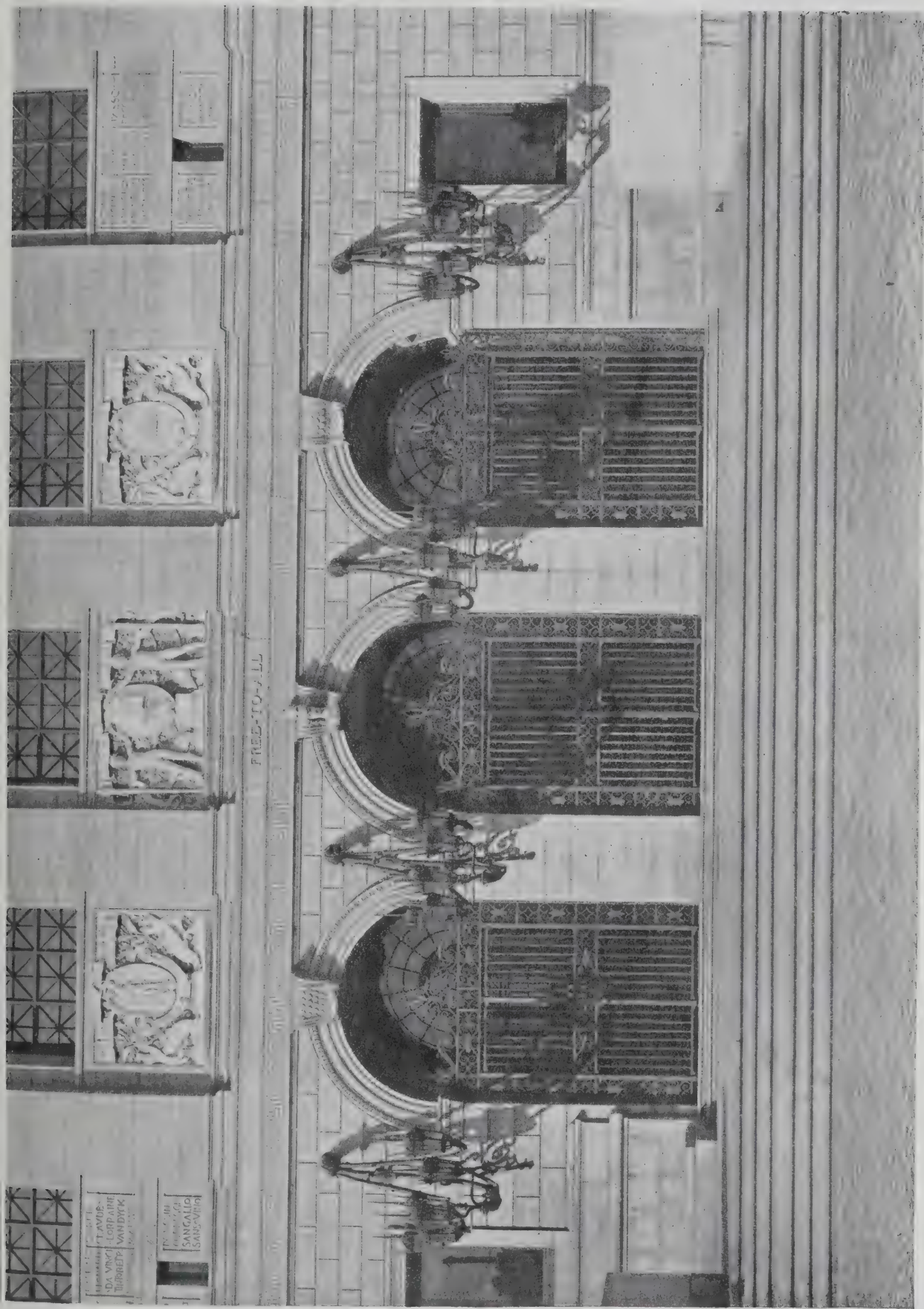


CLEOPATRA'S NEEDLE ON THE VICTORIA EMBANKMENT, LONDON.



STUDENTS' DRAWINGS (SERIES II.). I.—DESIGN FOR MONUMENT AT GETTYSBURG, U.S.A.

BY W. S. R. BLOOMFIELD.

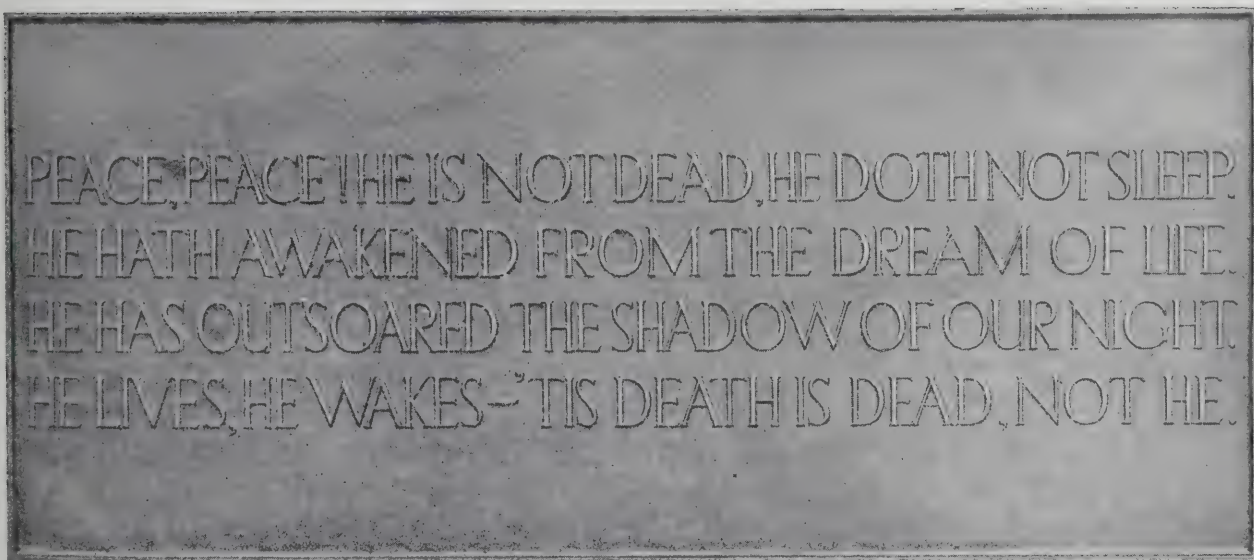
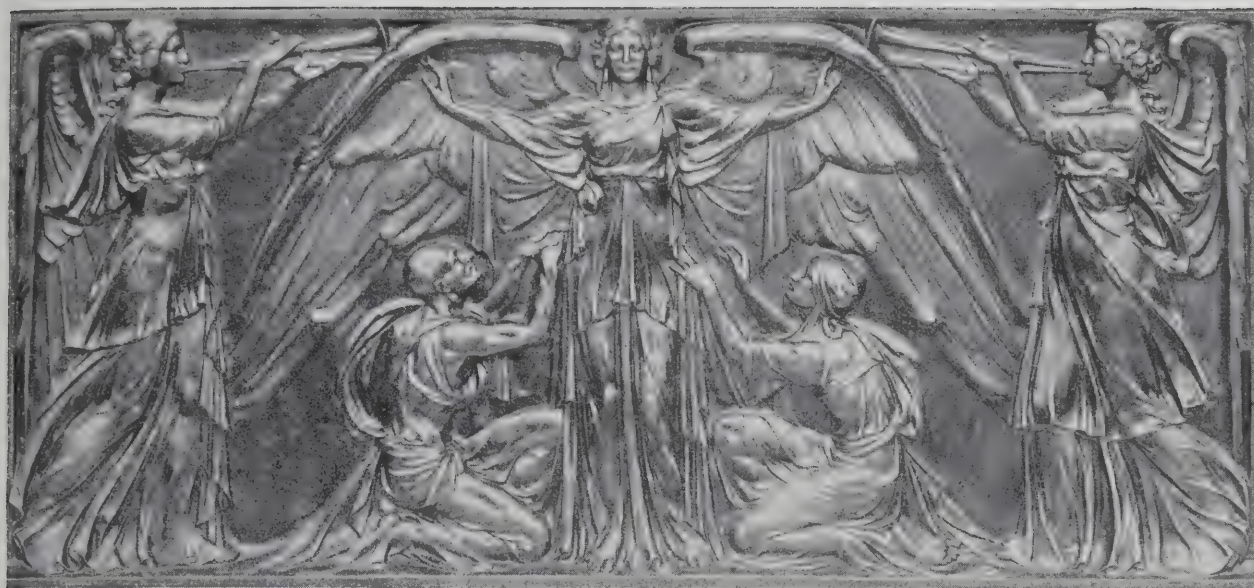


MODERN AMERICAN ARCHITECTURE. XVIII.—BOSTON PUBLIC LIBRARY: MAIN ENTRANCE.
MCKIM, MEAD AND WHITE, ARCHITECTS.



MODERN AMERICAN ARCHITECTURE. XIX.—BOSTON PUBLIC LIBRARY: DOORWAY IN BATES HALL.

McKIM, MEAD AND WHITE, ARCHITECTS.



TABLETS AND INSCRIPTIONS. XIII.—BRONZE PANEL AND INSCRIPTION ON MONUMENT IN HANWELL CEMETERY.
ATKINSON AND ALEXANDER, ARCHITECTS.



SMALL HOUSES OF THE LATE GEORGIAN PERIOD (SERIES II.). III. — "THE RUNNING HORSES" INN, MICKLEHAM, SURREY.



unfortunate one for Dixon, who, though he got his £5,000, was the loser by something like £4,000 on transaction.

The special difficulty in handling Cleopatra's Needle was that the shore on which it lay was encumbered by shoals and exposed to gales, so that no ordinary vessel could lie there in safety if brought near enough to make the obelisk directly on board. It became obvious, therefore, that either a special vessel would have to be built, or the obelisk would have to be moved across to the harbour of Alexandria, and there put on board a big ship. Dixon decided on the former alternative. His scheme was to build an iron shell around the obelisk, with timber struts inside to prevent the stones moving out of place; then to roll it down the beach into the sea, and tow it home. The iron shell was made by the Thames Iron Works Co., and shipped to Alexandria. The obelisk was dug out all round, the baulks of timber were put under it, and then with hydraulic jacks the end was slewed round till the monolith came parallel with the sea. The diaphragms were then put round it and the iron shell riveted on. Finally rings of 9 in. timber were strapped around the obelisk near the ends, constituting wheels of 16 ft. diameter and 12 ft. tread. The stones and rocks on the shore were cleared out of the way, planking was laid to the water's edge, wire rope was wound round a cylinder, and tugs began to pull merrily away. At this point one must note that the obelisk was so placed that its centre of gravity was about 9 or 10 in. below the axis of the cylinder, which arrangement, of course, would give it stability in the water, while elastic timber struts were provided at all bearings, allowing a deflection of 4 in. before any strain came on the stone.

The launch began on August 28, 1877, but the next day it was found that the cylinder was half full of water, a large stone hidden in the sand having penetrated one of the ten bulkheads into which the vessel was divided, and the man whose special duty it was to look after this section of the work having forgotten to close the water-tight doors! The obstruction, weighing about half a ton, was removed; the cylinder was pulled out until the hole came on top; then the water was pumped out, a patch riveted on, and in due course the obelisk was afloat. Bilge keels were attached to the obelisk, a cabin and bridge fitted, mast and rudder added, and about twenty tons of iron ballast put in, bringing the displacement of the vessel up to 280 tons.

Cleopatra was now christened, and in tow of the s.s. Olga she moved out of Alexandria Harbour on September 21, 1877. Stops were made at Algiers, Gibraltar, and all went well till the Bay of Biscay, where, on October 10, a heavy gale blew up. The Cleopatra never steered well at any time, having a most alarming propensity to yaw. When the storm came upon her, her ballast shifted, and she went over her beam ends. Attempts were made to hold her fast, but these efforts were quite fruitless, and several sailors were drowned in endeavouring to carry out the work; their names are recorded on the river face of the pedestal. Finally the vessel was abandoned, and the Olga went home, everybody on board being convinced that the Cleopatra had foundered. The Maurice, however, espied the prize seventy miles from Ferrol, towed it into that port, and sent in a claim of £5,000 for salvage, getting, in the end, £2,000. Cleopatra remained at Ferrol for about three months, and eventually was brought into the Thames by tug on January 20, 1878. At this point, for lack of space, I must put off the further account of the obelisk—who nicknamed it "Cleopatra's Needle"?—till next week the description of how it was set on the Embankment, and the strange collection of objects that lie buried within it.

UBIQUE.

THE PLATES.

Monument at Gettysburg.

THIS design, by Mr. W. S. R. Bloomfield, is an example of student work done in the School of Architecture at the University of Pennsylvania, Philadelphia, U.S.A. The requirements of the problem were as follows: It was proposed to erect a national memorial to the soldiers who fell on the battlefield at Gettysburg during the American Civil War. This memorial was to be placed on the top of a mound and to be seen from every side. No suggestion was made as to the shape of the monument, and no practical requirements were imposed on the designers beside this, of not covering an area larger than 100 ft. square, exclusive of approaches. In the solution of the problem Mr. Bloomfield has aimed at simplicity and severity, and a very restricted use of ornament, relying for effect on the architectural form of the monument itself. We greatly favour the obelisk form for a commemorative monument of this kind, and hope it will be largely adopted in the case of memorials to those who fall in the present conflict. Mr. Bloomfield, it may be added, has now joined the Royal Flying Corps.

Boston Public Library.

The Boston Public Library is one of the most notable buildings erected by Messrs. McKim, Mead, and White, and it was done at a time when the leading spirits of the firm, Charles Follen McKim and Stanford White, were alive. The many great buildings of the firm have all been on classical lines, some leaning towards Greek models, many more towards Roman models. In the Boston Public Library the inspiration comes from the Italian Renaissance, but, like all the designs of Messrs. McKim, Mead, and White, there is in it something far greater than the mere re-using of an existing building. Messrs. McKim, Mead, and White ever infuse a new spirit into their work, and this is as much the case in the Boston Public Library as it is in the Pennsylvania Station. The details which we publish, of the main entrance to the library and an inner doorway with marble columns and entablature, are admirable illustrations of this.

Tablet and Inscription in Hanwell Cemetery.

These form part of the monument to William J. Plaistowe, which consists of a square pedestal set upon a base, and having a rich frieze with shallow pediments on each face, the whole being surmounted by an urn. The panel and inscription are set on two faces of the monument, which is entirely of marble. The panel represents the Resurrection. Messrs. Atkinson and Alexander, of London, were the architects.

"The Running Horses," Mickleham.

This plate shows a country inn erected about 1780; the details of doors and windows belong unmistakably to this period, though the general shape of the house and roof follow an earlier type—an effect of traditional influence which is constantly met with in various forms in the smaller houses of country districts.

Manchester Old Town Hall Details.

The plate this week shows the Ionic capital in the large hall. It is a fine example of its type.

Entrance Doorway to an American House.

As we have before remarked in these columns, there is a popular fancy in America for turning back to models of their Colonial work. The entrance doorway to the house at Kew, shown on the double-page plate in this issue, expresses this tendency. The doorway is a delicate piece of work, but, judging from the photograph, the wood fan above the opening is not altogether successful, more particularly by reason of the segmental line which extends across the space: a squarer treatment here, in our opinion, would be an improvement.

ARCHITECTS' BOOKKEEPING.

[SPECIALLY CONTRIBUTED BY A CHARTERED ACCOUNTANT].

NO man, hoping to conduct a business successfully, can afford to neglect its Accounting Department, and a far-seeing man will take care that this department is organised on efficient lines, not only to cope with the present dimensions of his business, but sufficiently elastic to meet automatically the requirements of its future development and growth.

An architect commencing practice is inclined to regard a systematic record of his business matters as time and labour lost, and, in consequence, acquires a slipshod method of bookkeeping and office organisation which naturally gives no satisfaction to himself and probably gets into hopeless confusion such records as he may keep.

A proper and complete system should be installed when the practice is begun, and, if this be done, the business books will give a full and complete record of all transactions, and this record will be found invaluable in many ways, but particularly in the following :—

(a) An accurate and detailed Profit and Loss Account can be prepared periodically showing the result of the architect's labours and enabling him to compare one period with another and effect such savings in expenses and otherwise as the comparison may show necessary.

(b) A reliable Balance Sheet can speedily be prepared showing how the business stands financially and, in the case of a partnership, the exact interest of each partner in the business.

(c) Proper accounts are available for the purpose of ascertaining the correct amount of profit upon which income-tax is payable and, in the majority of cases, a saving effected in the amount of duty payable. An over-assessment is impossible where proper accounts are kept and these are produced to the authorities.

(d) In the event of negotiations being entered into with a view to the admission of a partner, disputes as to the value of the business and connection are lessened and a proper and reasonable premium to be paid by the incoming partner can be fixed, based upon the results of the past as shown by the books. The incoming partner will have confidence in the business, and between partners confidence is essential to success.

(e) In the event of the architect desiring to retire and sell the goodwill of his business, negotiations can be quickly and agreeably concluded where there are accurate and full accounts available for the investigation of prospective purchasers.

(f) Where a dispute arises in the matter of accounts and the architect finds it necessary to have recourse to the Law Courts, the case will be more quickly and easily settled when reliable books are forthcoming, and thereby legal costs will be lessened and a successful issue be more likely to result.

(g) Should the business be unfortunate and the architect in the unhappy position of finding himself in the Bankruptcy Court, his discharge will be more readily obtained if he has kept proper books of account.

(h) On the death of the architect, the

work of his executors is considerably lessened and they will be in a position to obtain for his dependents the maximum value for the business.

Being satisfied that an efficient system of office organisation is necessary, the next point to decide is, what records and books are required to effect this ?

The following summary may be taken to be fairly comprehensive :—

1. Office Organisation.

- (a) Diaries.
- (b) Register of Plans.
- (c) File of Plans.
- (d) Specification File.
- (e) Certificate Book.
- (f) Register of Contracts.
- (g) Register of Callers.
- (h) Telephone Call Book.
- (i) Order Book.
- (j) Advertisement Book.
- (k) Postage Book.
- (l) Correspondence Files.
- (m) File for Paid Accounts.
- (n) File for Unpaid Accounts.
- (o) Bills Outwards File.
- (p) Salaries and Employés Register.

2. Financial Books.

- (a) Works Ledger.
- (b) Clients Ledger.
- (c) Journal.
- (d) Cash Book.
- (e) Petty Cash Book.
- (f) Private Ledger.

1. Office Organisation.

(a) Diaries. The principal and each assistant should keep a separate diary, into which each should enter daily particulars of the work he had done, showing the name of the client and job, and recording the time occupied.

Example :—(Fig. 1).

These diaries form the groundwork of the business records, and the entries are transcribed or posted into appropriate accounts in the Works Ledger.

They are further useful in enabling the principal to scrutinise and keep control over the work and time of the assistants.

When an entry has been transcribed or posted into the Works Ledger, the page to which it has been carried is entered in the column headed "Works Ledger Folio" in the Diary.

(b) Register of Plans. All plans and drawings should be numbered and kept in the "File of Plans," in numerical order. Particulars of these plans would be entered in the "Register of Plans" (which should have an index).

The object of this book is to record all drawings and what has become of them. If in the office, any particular plan can quickly be forthcoming by referring to the Register to ascertain its number and

then turning to that number in the file. The index should give not only the page of the Register upon which the plan is recorded, but also the number of the plan.

In place of a book register many architects employ the *card* system. This system consists in having drawers of cards, a separate card being used for each drawing or set of drawings. The cards would be suitably ruled and arranged in the drawers in alphabetical order. They would be guide cards (with projecting tabs) for dividing the cards into alphabetical batches.

Examples :—(Fig. 2).

(c) File of Plans. This should preferably be in cabinet form, suitably partitioned, with the drawings placed in numerical order.

(d) Specification File. A handy method is to use a filing cabinet in which all specifications, estimates and similar documents are placed in numerical order and their descriptions and number entered into a "Where is it?" index book.

This method is very convenient, as, in the case of reference, the documents required can be abstracted, dealt with, and replaced in its proper position.

(e) Certificate Book. This should be in manifold form, so that a fac-simile retained of each certificate issued. The certificates should be numbered consecutively.

(f) Register of Contracts. This book is designed to keep a record of all tenders and accepted tenders for each job, together with the amount certified to the contractor. The book should contain an index and a separate page should be used for each job.

Example :—(Fig. 3).

(g) Register of Callers. This is a counter book, and should contain a record of all callers. The right-hand column should be detachable, so that the caller's name may be sent forward to the person enquired for. (Fig. 4).

(h) Telephone Call Book. This should be affixed near the telephone instrument and every call recorded. The account for trunk calls can be readily checked from this book.

(i) Order Book. This is a manifold book for keeping copies of all orders given for materials, instruments, and expenses.

(j) Advertisement Book. This is an indexed newspaper-cutting book, in which should be pasted copies of advertisements, with a note added of the dates on which the advertisements appeared, and the names of the newspapers.

Monday, January 1.			
Works Ledger Folio.	Client or Job.	Details.	Hour.
2	Col. Jones-Smith.	Journey to Riverston, measuring site	

Fig. 1. Office Diary.

W.

(Guide Card).

No.

Date.

Description.		
Job.	Issued to	Date issued

Fig. 2. Card Register.

Client.....

Works Ledger Folio.....

Clients' Ledger Folio.....

Accepted Tenders.					Instalments.			Notes.
Amount.	Contractor.	Amount.	Extras.	Date.	Certif. No.	Amount.		

Fig. 3. Register of Contracts.

Date.	Hour.	Caller's name.	Remarks.	Caller's Name

Fig. 4. Register of Callers.

received for stamps.	Amount.	Date.	To whom addressed.	Address.	To be charged to	Analysis.			
						Clients.		Office.	
						S.	D.	S.	D.

Fig. 5. Postage Book.

The newspaper advertisement accounts would be checked from this book.

(k) Postage Book. An account book in which all letters posted are recorded. It is designed to analyse the stamps used into "Office" stamps and postages recoverable from clients. The "clients" column should be analysed monthly, and a list made of the amount to be charged to each client. (Fig. 5).

(l) Correspondence Files. There are numerous filing systems, but perhaps the most serviceable is where the correspondence of each job or client (both outwards and inwards) is kept in a file to itself and the letters arranged in the file in chronological order.

The files would be arranged in the filing cabinet in alphabetical order.

(m) File for Paid Accounts. A file of the "Shannon" pattern will be found most useful. The receipts would be put upon the file in numerical order—each receipt being given a number agreeing with the number assigned to the entry of the payment in the Cash Book.

(n) File for Unpaid Accounts. On this file should be placed all accounts owing (Liabilities). When paid, they should be attached to the receipt and transferred to the file of accounts paid. The accounts on this file, with the addition of the accounts owing but not yet rendered (as ascertained from the Order Book), will give the liabilities of the business at any time.

(o) Bills Outwards File. Copies of all bills rendered to clients should be placed in this file and arranged alphabetically. The copies are now generally duplicated by means of carbons, when being typed for issue. There is thus retained a facsimile of all bills rendered, without any extra outlay of time in copying.

(p) Salaries and Employés Register. In this book is opened an account or page for each employé, giving his name, address, age, date and terms of engagement. Each payment to the employé should be entered in his allotted page and should be initialled by him as an acknowledgment of his having received the amount. Upon his ceasing to be employed, the date of termination and the reason should be entered to close the account.

(To be continued.)

Captain Scott Memorial for St. Paul's Cathedral.

The Mansion House Committee of the Captain Scott Memorial Fund are, with the permission of the Dean and Chapter, about to erect a bronze bas-relief in St. Paul's Cathedral in memory of the explorers. The sculptor is Mr. S. Nicholson Babb. The model was recently exhibited at the Royal Academy. At the request of the committee, Lord Curzon composed the inscription, which will run: "In memory of Captain Robert Falcon Scott, C.V.O., R.N., Dr. Edward Adrian Wilson, Captain Lawrence E. G. Oates, Lieutenant Henry R. Bowers, and Petty Officer Edgar Evans, who died on their return journey from the South Pole in February and March, 1912. Inflexible of purpose, steadfast in courage, resolute in endurance in the face of unparalleled misfortune, their bodies are lost in the Antarctic ice, but the memory of their deeds is an everlasting monument." If the inscription is not yet cast it should be amended. The sentence beginning "Inflexible of purpose" is ungrammatical.

THE PHILOSOPHY OF COLOUR SCHEMES.

IN referring to interior decorations, Mr. Henry J. Davison, whose best work is in the Bankers' Club of America and the Lawyers' Club, New York City, states that certain colours have a certain definite effect on masses of people. The human soul has so many prejudices that individuals are affected differently, according to past associations and experiences with certain colours. Just as a strain of music or a waft of perfume recalls to us in a flash some terrific emotion experienced many years past, and supposedly forgotten, so a certain colour may be associated with some extremely disagreeable experience, and therefore always bring us extreme discomfort. For instance, when we enter a lavender room we suddenly may become pensive and melancholy, or perhaps, irritable, and may be wholly ignorant of the fact that the colour has brought up disagreeable memories.

Do not imagine (says Mr. Davison) that all this is vague theory. "I have made colour a life-time study, and deduced facts which sound like didactic statements from literally thousands of instances. That is the only way scientists determine anything; they study innumerable cases, and when they find the same conditions prevailing under the same circumstances every time, they deduce a law which operates unfailingly.

I remember a big piece of work I did in a house, a part of which consisted of a yellow and also of a blue room. Two powerful captains of finance frequented the club. One passionately loved the yellow room. He used to say naively, "I can sit in the yellow room all day." Undoubtedly this was due to the fact that he was a self-made man who had worked hard and never had had any warmth or colour in his life. This golden glow meant to him relaxation—the joys of boyhood.

The other man inevitably drifted to the blue room, showing a predilection for blacks and blues; for recesses and shadows. He is a lawyer who protects millions of dollars—an abstractive man, who loves spider webs, the spinning of schemes. Every shadow and recess in a room delights him. He cannot stay away from that blue room. This is because he never explodes or gives way to irritability or passion. Not having the outlet his pent up energies crave the stimulus of colour.

Red is universally aggressive. Orange expresses heat. Have you never questioned why the Italians and Spanish, although living in hot countries, always dress in red and yellow, eat red peppers, and swallow violent drinks? It is because they give out so much heat that they are obliged to restock their heat and energies.

Blue stands for serenity and coolness. Violet is mystic and contemplative. There is no doubt in my mind that the theological symbolism of colour, which is a tremendous study in itself, was founded upon actual knowledge of psychology. You know that even as late as the Italian Renaissance the great painters, such as Raphael, were obliged by the church to express certain theological symbols, such as blue for the Madonna's robe, signifying religion or faith; green for hope, and white for purity.

Take our everyday lives; although in general the sexes are differentiated somewhat in taste and expression, colour is not so much a matter of sex as of temperament. Strong elemental colours are regarded as masculine, while the tinted ones, to which white has been added, expressing subtlety and delicacy, are feminine. Still, I have seen strong,

manly men sometimes react to exquisite colours. People of the same sex but different temperament express wholly different colours and forms.

Can you imagine Queen Elizabeth and Marie Antoinette wearing the same costumes and enjoying the same furniture? The dominant, aggressive, masculine queen wore certain costumes and surrounded herself by certain strong, well built furniture. The dainty, aristocratic French sovereign expressed her period by delicate Dresden china figures, spindle-legged furniture, and all sorts of fragile, rococo, and ornate furniture and tapestries.

If you do not think that colour has a real physical effect on people you should see some men almost go crazy if subjected to violet. A doctor experimented recently with an apparatus—I think they call it a pulsometer—which showed the pulse going up or down, according as the person was subjected to one or another colour.

In Yale University tests were made which showed that men when subjected to red displayed 50 per cent. more muscular efficiency than under other colours. The effect was measured by instruments on their wrists, and it was shown that when subjected to purple the pulse would go away down.

Nations have colour, and national tastes change. We could express America by one colour, France by another, with real meaning. Chickens have been fed with aniline dyes and the egg that forms in concentric rings, each being of the colour given to the hen at the time that portion of the egg was forming. This is a mere physical experiment.

But it is people who are eternally fascinating. Always and forever we are asking, What is art? Tolstoy answered, "The transference of emotion." William Morris said "art is man's joy in his work." Colour is rejection—or the bouncing away. Colour is a language. It has an alphabet, spelling, grammar, and paragraphs. The three letters in the colour alphabet are red, yellow, and blue. Every room must have some of each of these, whatever the proportion. Sometimes I call them the parents. (You know, of course, that there are 3,000,000 colours.) Red marries Yellow and they have one child—Orange. All the rest of the three million colours and tints are their offspring.

Tints, of course, merely have more or less white mixed in. Mixed colour is dirty. Not one house painted in eight hundred can mix colours. Pure colour is "grayed" or "browened" or "blackened." The shade produced depends on time and the effect of one colour soaked into another. No dyer can guarantee absolutely what colour will finally emerge. Colour depends on what company we keep. Colours must be very fastidious; they cannot risk evil associates, lest their blood be debased.

All artists use the same paint; they are marvellous only in the mixture of the colours and the proportions used.

Decoration is applied psychology! If your house does not express you it is a setting without a stone. Your taste may be guided, but if your abode merely expresses the conventional schemes or predilections of a hired decorator it is a Smith house or a Jackson room, but not the emanation of your soul!

The history of household furniture is intimate and fascinating. It usually is founded on physical facts and customs. For instance, the chair of a certain period

had high rungs, because in that age, in king's houses, there was no sanitation and garbage, water, dirty little animals and rats might render the floor unbecomingly filthy. So she kept her well up from the stone floor!

In most forms of art expression, even eccentric they may appear, there is a reason. But when we get away from home furnishings, from tapestries of delicate hue, and spindle legged or mahogany, or gilt furniture, and come to the realm of human beings, there is a spirit of mysticism, of uncertainty of eternity. That is why we speak of soul portraiture, which sounds vaguely irrational to the dull realists, but is founded on eternal verities.

If it is scientifically proved that different colours actually affect a person's thoughts and mood, it stands to reason that we should study not only colour effects in general but in their relation to individuals, men and women. Why torture a sensitive young girl by giving her a blue bedroom if it render her nervous, depressed and melancholy? She may not realise what is that is affecting her spirits and nerves, but that should be the concern of a colour specialist.

In deciding on your own colour scheme, avoid affectation and the following of a didactic teacher. Be yourself. Each individual is a facet of the diamond of life. Why should a hustling, rich, successful woman or a practical prosperous business woman garbed in a tailor-made costume of the twentieth century go into a "periodism" and dwell in an ornate, Antoinette room? Nothing is more artificial and incongruous. If folk understand colour and harmony there would be less friction and fewer divorces!

Every work of art is, in one sense, a reproduction of nature. Painters cannot paint light. They cannot reproduce Niagara on a three-foot canvas. Truth is reached through error, and we were—through the great illusion. In entering a crowded, busy downtown skyscraper office building in the heart of New York the visitor must be impressed with distance, with dim, cathedral-like spaces.

The Bankers' Club is, in floor space (100,000 square feet), the equivalent of a 400-room hotel! A decorator must select colours which will not oppress the occupants of a room into a rage; he must have a thought for eye strain, ear strain, must regard the nose, the sense of touch, the palate, and even the legs. Americans are wearing out their eyes because of the intense light of the modern windowed office buildings. The storey of a steel skyscraper has no shades or vista or partitions, so that the decorator has some problem to make it cosy and homelike.

People are just waking up to the fatigue strain of noise in a big city. The confusion from hundreds of voices crossing and recrossing each other in a room as real and assail the nerves as disagreeably as little popguns shot off in every direction! I try to counteract the confusion of colour and line and bring about repose and serenity.

So much for the eye and ear. The touch must not be assailed by unpleasing objects in a club, and the palate must be pleased with the aid of lovely æsthetic surroundings.

Even the texture of fabrics and leather has an effect on the temper and the so that the body-fitting chairs must be of certain materials in upholstery to insure peace."

EDUCATIONAL PROSPECTUSES.

spite of the war, there is no abatement in the vigour with which the educational authorities are wont to enter upon their yearly campaign. There should be ; for while it is true that, the student corresponding pretty closely to that of naval service, there will necessarily be a serious depletion of the schools, yet the ability of keeping educational organisation in a state of efficiency is stronger than ever, considering the enlightenment which the war has brought us as to the national importance of severe training in every department of activity. To fact the various educational bodies are fully awake, for the programmes they have put forth this year show no lack of energy, but rather the con-

University of London School of Architecture.

The University of London School of Architecture includes the Department of Town Planning at University College. Of the School of Architecture Professor F. M. Osborn, F.R.I.B.A., is director; with Mr. Elsey Smith, F.R.I.B.A., as professor; and John J. Burnet, R.S.A., LL.D., F.R.I.B.A., as special visitor for academic work; Mr. Arthur Stratton, F.R.I.B.A., as lecturer; and Mr. Leslie Wilkinson, F.R.I.B.A., assistant professor. Professor S. D. Adshead, M.A., F.R.I.B.A., is at the head of the Town Planning Department, and the general staff includes lecturers and lecturers in municipal engineering, civil and mechanical engineering, painting and sculpture, archaeology, hygiene and sanitation, and general subjects in the faculty of arts.

The new building for the School of Architecture provides accommodation for more than a hundred students. The following courses of study are provided: (1) B.A. Degree Course (Honours in Architecture) of the University; (2) The Certificate Course in Architecture; (3) The Academic Design Courses; (4) Special Art Courses; (5) Carpenters' Company Training Design Course; (6) Certificate Course in Town Planning; (7) Diploma Course in Town Planning and Civic Architecture; (8) Diploma Course in Town Planning and Civic Engineering.

All particulars of these courses, of the various recreative associations, etc., and of scholarships and prizes, are given in the prospectus, which may be obtained from Mr. Walter W. Seton, M.A., D.Lit., Secretary, University College, London.

Under the direction of Professor F. M. Osborn, with Mr. Leslie Wilkinson as instructor, an evening design class established by the Carpenters' Company meets at University College on Mondays and Wednesdays. Students can take up either: Special subjects set at the beginning of a term, which include both practical and academic problems. The subjects to be set in October are: (a) Hostel for the poor in London; (b) a tea pavilion, courtyard, and landing stages on an island in the Upper Thames. Or (2) The subjects set by the R.I.B.A. as testimonies of study for their final examination, particulars of which are published in the R.I.B.A. Journal. Prizes are awarded at the end of each session. Day students entered for any of the regular day courses can attend the evening class without payment of further fee.

New students are requested to bring specimens of their work for inspection. A travelling studentship of £25, instituted by the Carpenters' Company, will be awarded at the end of the session to the

best student possessing sufficient merit in either the day or evening classes. Students of the design class can, by permission of the Carpenters' Company, attend the practical demonstrations at the Trades Technical School, Great Titchfield Street, without further payment. These classes are held on two evenings a week during the winter and spring terms. The design class is held under a grant from and at the expense of the Carpenters' Company and is consequently open to the students at low fees.

London County Council Institutions.

From the London County Council we have received particulars of evening education in art, technical, trade, commercial and general subjects in the north-western and adjacent districts of London, and a further programme of the courses at the Westminster Technical Institute. Architecture, building construction, carpentry and joinery, decorative painting, electricity, hygiene, land surveying and levelling, plumbing, structural engineering, workshop drawing, and other subjects of importance to the building industries are included in the first-mentioned programme.

In the prospectus and time-table of the Westminster Technical Institute, Vincent Square, Rochester Row, S.W., the subjects set forth are arranged under the headings Civil Engineering, Gas Engineering, and Architecture and Construction. Reinforced concrete design is taught by Mr. Percy J. Waldram, F.S.I., M.C.I.

These prospectuses may be obtained from the L.C.C. Education Offices, Victoria Embankment, W.C.

University of Sheffield Department of Architecture.

The Department of Architecture of the University of Sheffield was founded at the desire of the Sheffield, South Yorkshire, and District Society of Architects and Surveyors, which is associated with the Council and the Senate of the University in its management.

The department provides (1) A course forming part of the ordinary degree of Bachelor of Arts; (2) a course leading to the degree of Bachelor of Arts with honours in architecture. This consists of a three years' day course and two years' part time course; (3) a certificate course, consisting of a two years' day course and a third year part time course; (4) a diploma course—this is a two years' part time course following the certificate course; (5) special evening courses in architectural drawing and in the history of architecture; (6) courses in surveying.

The day courses give a systematic course of training for students wishing to become architects, to be taken by them before entering an architect's office, though not necessarily before they are articulated. The part time courses (consisting principally of evening lectures) form a continuous course of study for students during their pupilage and also for qualified assistants.

All the courses are open to those who are already in architects' or surveyors' offices. Students who are unable to take a complete course may, by arrangement, attend any part or parts of the course approved by the lecturer, Mr. W. S. Purchon, M.A., A.R.I.B.A. The courses are adapted to the requirements of the examinations of the Royal Institute of British Architects. Subject to the approval of the Council of the Royal Institute of British Architects, exemption from the R.I.B.A. Intermediate Examination will be granted to students of the Univer-

sity of Sheffield who obtain the first-class certificate.

The University grants the degree of Bachelor of Arts with Honours in Architecture to students who have attended the three years' day course and the two years' part day and part evening course, and who have complied with the regulations for the Honours School of Architecture. First and second class certificates are awarded to students who have attended the two years' day course, and the third year part day and part evening course, and have passed the prescribed examinations. Diplomas are awarded to students who have taken the two years' day course and the three years' part day and part evening courses and have complied with the regulations for the diploma.

An interesting development is the inclusion of architecture as one of the subjects of the ordinary B.A. course for non-professional students.

TOWN PLANNING IN SOUTH AUSTRALIA.

Considerable attention has of late years been given to the important question of town planning, both by the Government and municipal authorities, in South Australia. The opening up of all portions of the State for agriculture has had the effect of stimulating secondary industries in and around the metropolis, with the consequent development of the residential areas; and the need for the systematic arrangement of the suburbs, with the provision of open spaces, has become increasingly pressing.

Definite steps, writes an Adelaide special correspondent of the "Christian Science Monitor," have previously been taken by the Government, and a conference of representatives of suburban corporations and district councils was convened to consider the subject. This resulted in the formation of a committee for the purpose of having some co-ordination in the action to be taken by the municipalities. Besides the proposal to submit a Bill in the coming session of Parliament, the present Government has purchased a 300-acre block of land, so that a definite scheme for the formation of a model settlement may be fulfilled, as an example to those concerned. The area secured is situated about four miles south from Adelaide, and can be served by an extension of the existing railway. It is at present being used by the Commonwealth Defence Department in connection with the training of troops for the Australian Imperial Expeditionary Forces.

The Attorney-General, the Hon. J. H. Vaughan, who is also minister for pleasure resorts, made a statement in regard to the matter a short time ago. "Careful consideration will be given to the basis of allotment," he remarked, "and we shall endeavour to adopt the system of tenants' co-partnership, which has proved so successful in England. In the past it has been the practice to throw a reserve into the centre of a community, and say that a town has been planned. Thus only those whose residences abut on the reserve enjoy its benefits. That will not be done in the case of the new model. Areas will be set apart in different localities, so that the number who will derive pleasure from having their homes on the borders of reserves will be greatly increased. I hope also to give a practical demonstration of subdivision on a plan which differs from that upon which all our suburbs have been

designed. Instead of a monotony of straight roads crossing one another at right angles, I hope to show that it is possible to introduce curves and breaks which will lend beauty to the vista without sacrificing economy of space."

At present the military authorities are in possession of the land, and they will, of course, remain until they have no further use for it. In the meantime surveys will be made; but until the defence department is no longer in need of the area nothing further can be done in connection with the scheme of settlement.

TRADE AND CRAFT.

Troublesome Chimneys—Down-draught Prevention and Cure.

How to cure or to prevent down-draught by increasing up-draught, without disfigurement to the building is a problem of very serious interest to the architect, who too often sees his building, after it has passed out of his control, marred by the addition of grotesquely ugly devices improvised by some local zinc-worker or jobbing builder; but fortunately the architect is now in a much better position to protect himself against such vandalism. By specifying, for example, Sankey's down-draught preventing pot, he will effectually provide against "smoky chimneys," and will at the same time add a grace rather than a disfigurement to his roof-scheme; the makers claiming, moreover, that this result is effected at considerable saving in cost.

From the accompanying illustrations it is evident that Sankey's pot is at least neat and inoffensive in form; and most people would yield ready assent to the claim that it is pleasing in any of the colours—red, buff, and salt-glazed—in which it is made.

It will be seen from the section here reproduced that the pot is scientifically constructed. A blast of wind entering the first ring at A is broken on the second ring B, only a very small volume of wind passing through. In the same way the ring C further breaks up the down-draught. Hot air and smoke from the fire cause an up-draught, totally eliminating all chance of any down-draught entering the body of the pot D.

In a booklet entitled "Down-draught

and its Cure," Messrs. J. H. Sankey and Son, Ltd., whose head office is at Essex Wharf, Canning Town, London, E., explain how their pot increases up-draught and acts as a perfect ventilator. Smoke issuing from a chimney-shaft when wind is blowing has a tendency to be drawn down the side of the shaft, because a partial vacuum is formed by the wind rushing past the shaft, and the smoke is drawn down the side. With Sankey's pot this partial vacuum is utilised to draw the smoke out of the chimney. In striking the pot the wind rushes up the louvre openings and forces the smoke out of the pot, while on the other side it is drawn out as well.

Illustrations in the booklet show a few actual instances in which the Sankey pot has completely cured down-draught, and the firm claim that thousands of troublesome chimneys have been cured by their pots.

Catalogues, booklets, testimonials, and a small model of the pot may be obtained on application to Messrs. Sankey at the above-given address.

Scientific Industrial Lighting.

As an opportune sequel to the publication of the first report of the Departmental Committee on the lighting of factories and workshops, Messrs. Holophane, Limited, 12, Carteret Street, Queen Anne's Gate, London, S.W., have issued a pamphlet on their system of illumination for scientific and economical industrial lighting.

Following the leading lines of the Government report, Messrs. Holophane observe that the legislation of many countries contains requirements regarding "adequate lighting," and that it is important to understand what is conveyed by this term. Speaking generally, there are three special points which should receive attention at the hands of the person planning a scheme for industrial lighting to obtain an entirely satisfactory result: (1) The illumination must be sufficient for the purpose in view. But the strength of the illumination is not the only factor. It is also necessary (2) to avoid undue contrasts and particularly the glare from imperfectly shaded lights. (3) The positions of lights must also be selected with care in order to avoid inconvenient and troublesome shadows.

The effect of bad or indifferent lighting in factories, mills, and similar buildings

results in bad or spoiled work, and slowing down of the output, whilst in where dangerous machinery is employed is very often the cause of serious accidents. All these defects can be remedied by the use of reflectors specially made for the purpose, and to this end the Holophane series of scientific reflectors have been designed.

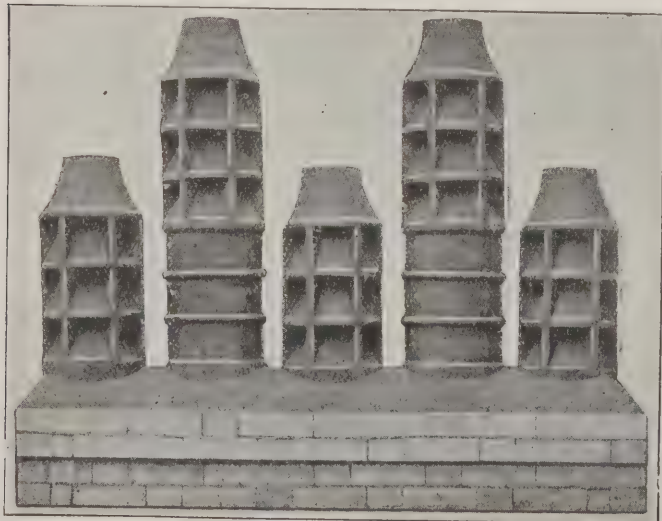
In factory lighting the quality of illumination plays an important part in the efficiency of production. In a well-lighted factory, the actual working hours are susceptible of extension, thereby increasing output, while the fixed charges remain the same. Spoiled work has proved the obstacle to economic production in factories. It is claimed that 25 per cent of the total spoiled work can be avoided by good illumination. The employee, considered with his machine as a unit, works more efficiently under good than under poor illumination.

Exhaustive investigation over 80,000 workshops of one kind or another has proved that accidents and spoiled work occur mainly in the twilight hours, and it is estimated that of the 200,000 accidents which occur annually in English workshops a large percentage are due to imperfect illumination. The elimination of perfect illumination means, as has been proved in actual tests, an increased output of 11 per cent., a higher degree of efficiency, and fewer accidents. When the result is compared with the cost of installing an efficient system of illumination there is no field of investment or speculation which shows a better return on money expended.

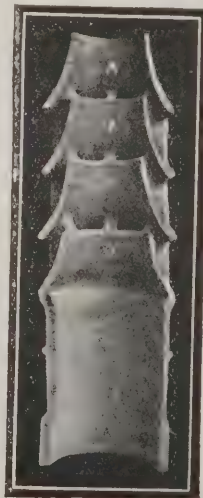
To obtain the maximum of efficiency from a light source, prismatic glassware accurately designed, must be used. There are drawbacks to the employment of unprotected glassware for industrial purposes, such as liability to breakage, and these drawbacks, it is claimed, are completely removed in the new reflectors. The Holophane industrial units consist of the well-known Holophane prismatic reflectors (the contours of which are designed to give a predetermined distribution of light) over which aluminium covers are spun in such a manner that they completely seal up both ends of the reflector. The metal cover in each case rests on the apices of the prisms, thus maintaining the natural light efficiency of the glassware.

In the pamphlet the following summary of the advantages claimed for the Holophane industrial reflectors is given: (1) The scientific light-reflecting properties of prismatic glassware is increased by the polished surface of the metal cover; they are easy to clean, both the inside and outside surfaces being smooth; (2) The reflecting surfaces do not tarnish after contact with the air, glass always retaining its entire reflecting properties; (3) The glassware is secured from breakage owing to its protective metal cover; (4) economical and effective results are secured.

Useful notes on installation show the applicability to varying circumstances of the three types of reflectors designated respectively extensive, intensive, and focusing; these types being severally appropriate for premises of large area and low ceilings, for small but lofty buildings, and for use where the points are abnormally high. Each of these types is illustrated, and in each case a diagram showing the photometric curve is appended. Several useful tables are added, showing, for instance, at a glance the candle-power of the lamp it is necessary to use and the height at which units have to be placed to get any desired foot-candle intensity.



Group of Dwarf and Ordinary Pots.



Section.

SANKEY'S DOWN-DRAUGHT PREVENTING POT.

ELECTRICAL NOTES.

"Carron" Novelties.

Everyone knows The Carron Company, of Falkirk, but it is of late years that this company has extended its manufacture into the domain of electricity. At one time known as one of the largest makers of coal-burning stoves of all descriptions, it has now developed a large business in electrical heating appliances. We have before us Pamphlet E.F. 2 of Carron electric stoves, which is a neat little brochure containing novel designs of domestic electric heaters, classified as stoves, fires, and dog grates. The radiators are, of course, based on the luminous lamp, or radiant heat, principle. It comprises some seven designs of from two to four lamps, of cast-iron or copper, some being specially suitable for placing over an ordinary grate or fireplace.

The stoves are essentially of the portable connector type, designed to draw cold air in below and emit hot air at the top. The illustrations show a series named after various jewels, and designed to harmonise with the decoration of the home or of the room liners. They are made of cast brass with sheet metal covers and relieved with chased and engraved ornamentation. The metal is generally finished in an "old" colour or satin.

Stoves of various watt consumptions are listed, with their ratings. A special pattern is the bath-room stove, in which the elements, surrounded by a perforated metal guard, are mounted on a cast-iron base with white porcelain enamelled.

A framework of solid brass tube, for hanging towels, is mounted on the base, and together with the guard and covers is nickel plated and polished. All the terminals and connections are enclosed, and a length of triple core flexible wiring with earthing wire is supplied with each stove, which can be connected to the supply through an earthed plug and

switch. Fires are of many designs, portable as well as fixtures for wall places. They have been introduced to meet the demand for an electric heater as near the form and appearance of a coal fire as possible. It is claimed that they are bright and cheerful in appearance, and diffuse a comfortable warmth throughout the room, the heat being sufficiently strong to make toast. The elements, which apparently consist of a special resistance wound continuously between bosses on fireclay bars of a particular design, are easily fixed and can be readily replaced, so that the fires can at once be adapted to any domestic pressure. The terminals or connections are visible, and the appliances are provided with three-heat regulation and loadings of 2.5 to 3 kilowatts; or sometimes 3.5 kilowatts. A particularly neat design has been designed for ships' use and so arranged that it is equally adaptable for fixing to the deck or bulkhead, and occupies very little space. It is arranged for two heating elements, and has a three-heat indicating switch. The body is made of light cast-iron and the appliance can be opened by a screw back, the heaters removed and replaced in a few minutes. The back is treated with a protective coat of special porcelain enamel, the front being similarly enamelled in colours to desire. The design, which is equally suitable for use in the office or home, is adapted to resist water, and can be easily cleaned by wiping with a damp cloth.

Dog grates are illustrated. The first has a high back with fleur-de-lis ornaments, hammered wrought-iron bars, and steel fret. It is arranged for standard Carron stove elements, which are mounted in the case under the imitation grate. These are illuminated by electric lamps from the inside to give a most realistic effect. The heat from the elements is thrown forward and out through the bars. The second dog grate is without high back, and is fitted with half-dogs, but otherwise as the first design described. Both can be fitted with fire elements, and the loading is 2 kilowatts. This form of electric heater can be applied to a dog grate, and, in fact, the company announce that they have more than a hundred types of dog grates which can be adapted to electric heating.

In conclusion, we have also to notice an electric boiling pan. The company has standardised for dealing with large quantities of liquids, such as soups, jams, and for boiling hams, etc. It is made in several capacities, with interiors of copper or rustless iron. The pan stands on cast-iron legs and is fitted with a domed copper cover. It is lagged and lined with steel casing and bright mouldings or other finishes. The fittings comprise a draw-off cock of gun-metal with cleaning and ebony handle, a water inlet valve, and wrought-iron standard with back counterweight for holding the cover when opened. Standard stove elements are employed and are quite accessible for replacement. A control panel, with regulating switches, fuses, and pilot lamps is fixed to the wall, whence the connections are taken in flexible copper tubing to a main terminal box on the pan, which is fully earthed.



ELECTRIC LIGHT FITTINGS.

FOR USE WITH
THE NEW
HALF WATT LAMP.

DESIGNED TO YIELD
THE MAXIMUM OF
LIGHT WITH THE
MINIMUM OF GLARE
AND WITH DUE
REGARD TO
DECORATIVE EFFECT.

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GARRISON LANE • BIRMINGHAM.

SHOWROOMS.

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MANCHESTER • GLASGOW • BRISTOL
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THE R.I.B.A. AND THE WAR OFFICE.

In the House of Commons last week Mr. Touche addressed a number of questions to the Under-Secretary for War in reference to the offer made by the Royal Institute of British Architects to nominate architects to assist in the provision of huts for troops in this country and in France.

Mr. Tennant, in reply, said: "Offers were made by architects and names of gentlemen selected by the Institute of British Architects were submitted to the War Office in November, but for the building of the large hutted camps in the British Isles and for work in France civil engineers, rather than architects, were needed. The huts in all cases followed typical plans, prepared by the already existing technical staff at the War Office, copies being distributed to various local officers. There was consequently comparatively small scope for designing. But the local problems of water supply, sewerage, lighting, etc., which varied in every case, and were in some cases of great magnitude, were such as appertain to the engineering profession, and experts in these branches were engaged in various places to supplement the technical staff at headquarters and in various commands. About ten gentlemen who were members of the Royal Institute of British Architects were so appointed, as far as can be traced, but none of these were in the list submitted in November by the Institute. As far as the quality of the hutted camps is concerned, the Army Council invited the President of the Institution of Civil Engineers to appoint a Committee of Inspection. This was done, and a strong voluntary Committee, with the President as Chairman, visited all the large camps in the early part of this year, while they were still under construction. They dealt with design, construction, materials, and adaptation to sites, though not with any purely military questions, and the views they expressed supported the action taken by the War Office generally in respect of the gigantic task with which they were confronted last year. As far as the Institute of British Architects is concerned, it may be said that, having due regard to the requirements of the public service and the enormous number of offers received from other institutions and individuals, the Institute received a due share of attention and of appointments."

OBITUARY.

Mr. G. Lister Sutcliffe, F.R.I.B.A.

We regret to announce the death of Mr. G. Lister Sutcliffe, F.R.I.B.A., in his fifty-first year.

A Builder's Estate.

Mr. John Eastwood, builder, of Dartford, left estate which has been valued for probate at £46,596.

Mr. W. Eves.

The death is announced of Councillor W. Eves, of Blackpool, at the age of seventy-three. He was a builder and contractor, and had erected much of the large property in the town and district. He was a native of Liverpool.

Lieutenant Dixon.

Lieutenant James A. Dixon, 6th Border Regiment, who was killed at the Dardanelles on August 9, assisted as excavator and draughtsman in various archaeological expeditions to Egypt during the last few

years. His energy and popularity with the workmen made him an ideal excavator, and his skill in reproducing bas-reliefs, hieroglyphics, and antiquities generally on paper made his help of the greatest value to archaeology. He had worked for the Egyptian Government in Nubia, for the Egypt Exploration Fund (with Professor Naville and Mr. Peet) at Abydos, and with Mr. Wellcome in the Sudan.

Chelsea Builder's Fortune.

Probate of the will of the late Councillor H. J. Wright, aged sixty-five, builder, of Chelsea and Keston, has been granted. The will is sworn at £81,841.

Estate of a Slate Merchant.

Mr. Ormerod Whittaker, of Oak Bank, Colne Road, Burnley, slater and slate merchant, whose death took place on January 16, has left property of the gross value of £31,854, with net personalty £30,854.

NEWS ITEMS.

The Largest Y.M.C.A. Camp Building.

At Crowborough the largest hut yet erected by the Y.M.C.A. accommodates 2,000 men.

An Open-air Swimming Bath at Bradford.

An open-air swimming bath has recently been constructed in Lister Park, Bradford. The cement flat roofs over the dressing-rooms have been made wet-repellent by the waterproofing powder Pudlo.

Government Contracts for Electric Lamps.

The General Electric Company, Ltd., advise us that for the seventh time it has received the G.P.O. (six-monthly) contract for the supply of Osram drawn-wire lamps. The G.E.C. has also received contracts for the supply of many thousands of Osram and Robertson lamps to the Admiralty and War Office.

Rev. R. M. Benson Memorial.

It is proposed to erect a cross to the memory of the late Rev. R. M. Benson in the churchyard of St. Mary and St. John, Cowley St. John, Oxford, which he bought and gave to the parish, and in which his body now rests. The cross will be 21 ft. in height, surmounted by a crucifix, with figures of St. Mary and St. John on either side.

A Hospital Chapel.

In connection with the Second Southern General Hospital at Southmead, Bristol, a new chapel has been erected. It accommodates 200 in the nave and thirty in the chancel. The building is the gift of Mr. and Mrs. Henry Wills, the cost of the fitting and furnishing having been borne by the lady visitors to the hospital, of whom there are about seventy. Mr. W. S. Skinner, F.R.I.B.A., of Bristol, was the architect, and Mr. Frank Chown the builder.

W. S. Gilbert Memorial.

A bronze memorial to W. S. Gilbert, by Sir George Frampton, R.A., was unveiled without ceremony on August 31. Beneath the head of the playwright are two small figures, "Comedy" and "Tragedy." The inscription reads: "1836—1911. W. S. Gilbert, playwright and poet. 'His foe was folly, and his weapon wit.'" The memorial faces the rear of Charing Cross Station on the District Railway and is attached to one of the pylons on the Victoria Embankment, about a couple of hundred yards from the bust of Gilbert's great

collaborator, Sir Arthur Sullivan, Embankment Gardens.

Housing at Rosyth.

Dunfermline Town Council at a meeting have agreed to borrow from Public Works Loan Commissioners the security of the public health assessment, a sum of £50,000 for the purpose of assisting the Scottish N. Housing Co., Ltd., which is to dwellings-houses in the Rosyth area coming holders of share capital in the company to the extent of 50,000 £1 shares.

Workmen's Dwellings, Llandudno.

Sixteen new houses have been under the Housing of the Working Classes Acts by the Llandudno Urban Council. Since the adoption of the 1896 the following provision for working class housing has been made: In 1896 sixteen houses were built in Council Street at a cost of £4,357, in 1902 thirty-two were built in King's Road at a cost of £7,772, and by the present scheme houses have been built in King's Road at a cost of £3,583, making a total expenditure on workmen's dwellings in the eleven years of £15,712. The Council have their possession land in King's Road sufficient to contain twenty-seven additional dwellings.

Hotel Skating Rinks.

New York restaurateurs believe the dancing habit, which has been a will continue to last some years with the older people," but it is dying out with the younger ones, who demand skating facilities instead. And so the Waldorf-Astoria is to be equipped with an indoor roller skating ring in a room on the top of the hotel. Young New Yorkers will cut mazy figures on rollers in the summer and on blades in the winter. This addition is part of a million-dollar scheme which is now being carried out at the Waldorf-Astoria. Another feature will be the construction of an "aeroplane balcony" as a dining-room, so called because it will overhang the Astor Court at a height of some 200 ft., and will have glass on the sides. Above the rink there will be a large roof garden.

Cost of the Office of Works.

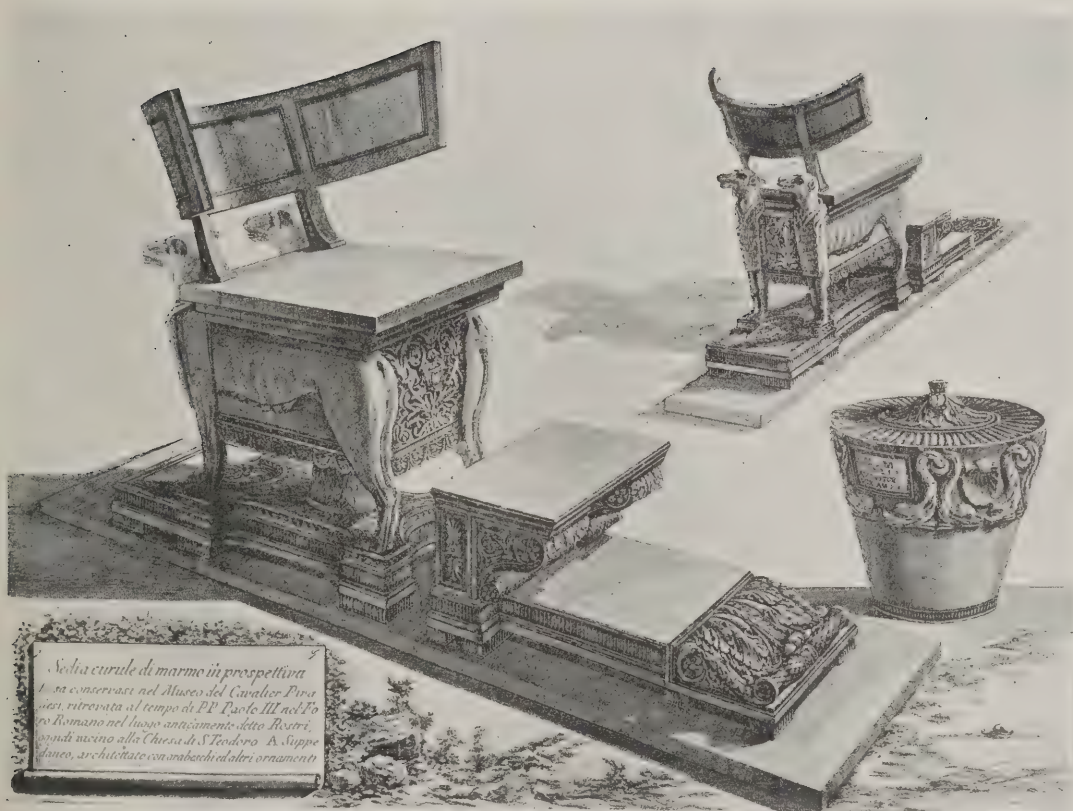
At a meeting of the Committee of the House of Commons on the subject of the trenchment in Civil Departments of the Government, the Chancellor of the Exchequer in the chair, the departmental examination was the Office of Works, which has the custody of the Royal palaces and parks and of all public buildings occupied by the civil departments. The vote for the salaries and expenses of the Office for the current financial year was £159,500, an increase of £7,226 over the vote for 1914-15. Salaries, wages, and allowances account for £146,000, as compared with £138,574 last year, the number of persons among whom the amount distributed being 437, as compared with 421 last year. The rest of the vote is made up of travelling expenses, £12,000—the amount as in the previous year—accidental expenses, £1,500, a decrease of £200. The latter item comprises expenses, postage, advertisements, subscriptions to hospitals, refreshments (allowance for service), etc." No part of the travelling expenses are public. In addition to the vote of £159,500, provision is made in the estimates of other departments for expenditure to the amount of £53,342 in connection with the Office of Works, among the items being Office accommodation, £22,425; £4,600; stationery and printing, £1,235; pensions, etc., £11,235; and Post Office, £8,135.

THE ARCHITECTS' & BUILDERS' JOURNAL.

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A ROMAN MAGISTRATE'S CHAIR, AND ANTIQUE VASE.

(From Piranesi.)

THE ARCHITECTS' & BUILDERS' JOURNAL.

SEPTEMBER 29, 1915.

TOTHILL STREET, WESTMINSTER.

VOLUME 42. No. 1082.

EDITORIAL.

A PART from the course of the War, the event of the past week has been the Budget, which, though imposing a heavy burden on everyone, has been accepted by the country in a splendid patriotic spirit. Whenever a new Budget is put forward we have always to consider it from the point of view of its effect on the building industry and the architectural profession. Mr. McKenna's Budget, so far as we can see, will not affect the building industry in any marked degree. The cost of living generally is bound to go up, and that will have its effect on labour costs, and thereby on the cost of building, but the Budget will not produce any great changes in this direction. As regards "war profits," the building industry, we regret to say, is not in such a condition that these need concern us much. Like the majority of people now, builders have rather to face the question of keeping things going on the bare level of receipts against expenditure. The builders who are making "war profits" must indeed be few, though it is true that there are some firms who, formerly engaged on work exclusively architectural, have, since the War, with commendable enterprise turned their energies into other channels; and these firms undoubtedly will have their profits taxed.

But there is one item in the Budget which we ourselves are particularly concerned with, namely, the abolition of the halfpenny post. Quite apart from the matter of newspaper postage, we would remind our readers that with many firms it has been a favoured custom of late years to send out circulars relating to their systems of construction, or features for the equipment and embellishment of buildings. The large increase in expense which the abolition of the halfpenny post involves will, we are sure, prevent firms from sending out circulars as they did before, and the fact will be borne in upon them that the publicity they seek for their work is obtainable at far less cost through the medium of advertisements in the building journals. We would not press here the merits of advertising, but we certainly consider there is good occasion to point out to business firms the altered state of affairs which will be brought about by the changes in the postage rates.

That mystic circle of ancient stones known as Stonehenge figured in the auctioneer's bill last week, when "Lot 15" was put up for sale as part of the Amesbury Abbey Estate, which came into the market in consequence of the son of the owner, Sir Edmund Antrobus, being killed at the Front, followed by the death, shortly afterwards, of Sir Edmund himself. The purchaser, at £6,600, was Mr. C. H. E. Chubb, of Bemerton Lodge, Salisbury.

There was no necessity, however, for any anxiety about Stonehenge, no reason to trouble our minds with visions of the monoliths and trilithons carefully packed up and sent across the seas to a piquant anachronism to a wealthy American park; because years ago Stonehenge was scheduled as a national monument under the Act, and it could only be sold subject to three stipulations—(1) the public were always given free access to it on payment of a sum not exceeding one shilling; (2) its condition should not be interfered with; and (3) that no buildings should be erected within a prescribed distance of the druidical circle.

The architectural competition just now is *avis*. At the present time one only is open to architects in this country—the competition for a housing and town-planning scheme at York, design which have to be sent in by the end of November. After the War, however, the architectural conditions will emerge from their hiding place, and among them will be that for the Federal Parliament House at Canberra, the new capital city of Australia. This will be a most important competition. The original intention was that the designs should be sent in by last March, but the War, of course, wholly altered the state of affairs, and the Australian Government decided to postpone the competition till a more favourable time. Meanwhile, the conditions have been revised, and under the new scheme the competition, instead of being open to architects the world over, will be confined to architects practising in the British Empire. This it should be. The designs will be assessed in Australia, and it is proposed that the assessors should include a nominee of the president of the Institute of British Architects, and a nominee of the presidents of the several Australian Institutes of Architects, with whom will be associated a nominee of the Commonwealth Government. "The Age," Melbourne, states that Sir John Burnet is expected to be the R.I.B.A. representative, or, if he is unable to visit Australia, Mr. Leonard Stokes will probably be invited to act. The nominee of the Australian Institutes is Mr. G. T. Poole. As regards awards, it is recommended that the authors of the least six, and not more than ten, of the designs submitted shall receive £500 each, the author of the design placed first by the assessors to be employed to carry out the work. When the scheme was first put forward it was intended that there should be a jury of architects representing Australia, the United Kingdom, France or Italy, Germany or Austria, and the United States, but in view of the War the representative of Austria, in the person of Herr Wagner, of Vienna, has been eliminated, and

is taken by the Russian architect, Eliel Saarinen. The intention was that there should be a first premium of £2,000, a second of £1,500, and a third of £1,000, with £500 each for the three competitors ranked next in order of merit, and further prizes of £500 each for the next three. Under the new scheme, as indicated above, the amounts of the premiums have been altered. Instead of three large premiums for the designs placed first, second, and third, there are to be ten awards of £500 each. Some objection has been raised to this new arrangement, among others, by Mr. Griffin, the author of the adopted plan for the site. Mr. Griffin thinks that smaller prizes will not induce the outside big game to compete. But, in our opinion, this is not likely to be the case. Competitions are never worth anything upon for the sake of the premiums; it is the carrying out of the building itself which is the object; and as this new Parliament House for Australia is expected to cost something like £100,000, a bait of £2,000 instead of £500 has little to commend it. One of the serious objections against the competition system is that it involves an immense amount of work by a large number of architects who get nothing for their labour, but however true that may be in general, this Australian competition offering ten substantial premiums meets the case in the best possible way.

From a correspondent we have received a cutting from the "Manchester Evening News," in which appears the following advertisement:—"Works and Offices—Architect (F.M.S.A., L.R.I.B.A.), offices in Manchester, is open to prepare plans, and superintend building contracts." This advertiser is, as his initials indicate, a Fellow of the Manchester Society of Architects, and a Licentiate of the Royal Institute of British Architects; and as a Licentiate he must be familiar with resolution 8 of the Council on professional conduct—stated in the opinion of the Council public advertisement by an architect is a contravention of by-law 24. This by-law runs: "Any Member or Licentiate . . . conducting himself in a manner in the opinion of the Council is derogatory to professional character, or who shall engage in any occupation which in the opinion of the Council is inconsistent with the profession of an architect, shall be liable to reprimand, suspension, or expulsion in the manner hereinafter provided." Architects, we know, are as hard hit by the War as any other class, but even in the present circumstances of fighting for work, as in the above case, cannot be intimated. The abbreviation "L.R.I.B.A.," however, is a direct infraction of the form signed by a Licentiate, who agrees that he will not use after his name any other affix with reference to the Royal Institute than "Licentiate R.I.B.A."

The protection of art treasures from destruction by hostile air-craft has long ago received the careful attention of the authorities. From museums and similar places the objects of greatest value have been removed to the safety of cellars, but in buildings, more especially cathedrals and churches—so alluring to the Huns—there are statues and tombs which cannot be taken away, and in these cases it has been found that no protection is more than that afforded by sandbags. So much is the case that the west portals of Reims Cathedral were protected by piles of sandbags after the first bombardment, and in London a similar means has been adopted, notably in the Church of St. Bartholomew the Great, where Rahere's Tomb is almost completely covered under sandbags. Individual statues have been wrapped round and padded against damage by

explosion or fragments of shell, so that unless they are fairly hit they have every chance of being preserved intact. For the main fabrics of treasured buildings there is, however, no possible means of protection other than applications of the nature of expanded metal, and these can only be local shields.

Of the War Office employment of architects we have spoken on more than one occasion. Mr. Tennant has been further pressed in the House of Commons in regard to the R.I.B.A. offers at the beginning of the War, and his reply, published in our issue for last week, makes matters worse rather than better, he having said that the huts were all erected from standard plans prepared by the War Office staff, and that the problems of water supply, sewerage, lighting, etc., in connection with them were more appropriate for engineers to deal with than architects. This, of course, is but another instance of the erroneous idea that an architect is not a "practical" man. We are accustomed to that notion being prevalent among the general public, but in official circles we expect to find something better informed.

About the proposed alterations in Southwell Cathedral there has been the customary controversy, and it has given rise to some pretty plain speaking on both sides. Usually in such cases the restorationists are "too proud to fight," but in this instance they have hit out lustily, and have made some very palpable hits. Here is an invigorating passage from a letter signed "X": "Of course it [the proposed building of a vestry on a sort of small courtyard or enclosure that is 'a useless space and a shabby one'] is an alteration, but it is one for the better; and, as contradiction always does men good, by strengthening their purpose if they have a spark of manliness in them, I can only say that if I were the rector I should be helped to its completion by what has taken place." Spoken like a Briton! It is this spirit that neutralises German "frightfulness." "Antiquarians," he adds, "are useful at times, but when they try to prevent every adaptation of things they have known to modern needs, they are, as in this case, a most decided nuisance. It makes me wonder why they ever have their hair cut, or buy a new coat." This champion will be forgiven his colloquialism for the sake of his robustious common sense.

A rather neat way out of a small but common difficulty has been found by the compiler of the L.C.C. School of Building prospectus. Supposing a teacher or lecturer is away on national service, how is the case to be represented in the prospectus? Of course, the patriot does not lose his position, and it would be as unfair to him to remove his name from the prospectus as it would be to the student or prospective student if it were kept there, and whom its presence might have induced to join the school or class. Also keeping it there without comment would be unfair to the absentee, whom it would seem to hold out as teaching in a school when he is in reality away on war service. In some prospectuses we have seen, the name of a teacher or lecturer who, as we happen to know, is away on war service is allowed to stand unannotated; from others, such names seem to have been omitted without explanation. Either course could have been avoided by employing the simple expedient adopted for the L.C.C. lists, in which there are several entries like this: "Painting and Decorating, L. Drinkwater (with the Forces); Acting Instructor, J. Lawrence, assisted by D. Maybank." This is a happy solution of the problem, and we mention it for the benefit of those institutions whose programmes have not yet been printed.

HERE AND THERE.

MY notes on Cleopatra's Needle last week, which had perforce, for lack of space, to be broken off short, brought me down to the arrival of the cylinder in the Thames on January 20, 1878. Meanwhile, before this safe termination of an adventurous journey with a stone weighing 180 tons inside an iron shell, a "Battle of the Sites" had been in joyful progress. The Horse Guards parade ground, the forecourt of the British Museum, the circus at the top of Portland Place, Greenwich Hospital, Parliament Square, all had their advocates, and Parliament Square was so far favoured that a wooden model of the obelisk was actually set up there. But as the directors of the Underground Railway, which passes under, were gravely disquieted with the possibility of Cleopatra's Needle falling through into their tunnel, and demanded a perpetual indemnity against that risk, Parliament Square was abandoned in favour of a site on the Embankment between Waterloo and Charing Cross bridges. Here a very broad and thick bed of concrete was provided, resting on the stiff clay that underlies the mud of the river bank, and the arched vaults of the Embankment were filled in solid with cement concrete. The "Cleopatra" was brought up to the spot and grounded at high tide on a sunken timber cradle. Its cabin was cut away, and the cylinder was given a turn so as to bring the best side of the obelisk to face the roadway. Then the iron shell was stripped off, and the Needle raised bodily by hydraulic jacks and pushed forward by screw traverses until its centre came exactly over the pedestal (of brickwork faced with Cornish granite) which had been prepared to receive it. A timber structure was next built round it, consisting of four corner uprights 60 ft. in height, and each formed of six baulks of timber 1 ft. square, all braced and strutted. Next a wrought-iron jacket 20 ft. in length and carrying trunnions was riveted around the Needle, and two horizontal box girders were fixed above and below. Everything being thus secure and ready, the great stone was lifted up and up by hydraulic jacks until the exact predetermined height had been reached, when, with tackle, the obelisk was turned sweetly on its trunnions and set vertically on its base. But I must not omit to mention what was deposited within the pedestal before the Needle closed down upon it. Here is the list of objects, intended for the eye of the future, but which a lucky shot from a Zeppelin might disclose to us of the present day: A standard foot and pound; bronze model of the obelisk to a scale of $\frac{1}{2}$ in. to the foot; memorial printed on vellum, giving a brief account of the removal of the obelisk, with plans of the various arrangements; jars of Doulton ware; a piece of the obelisk stone, chipped in levelling the base; complete set of British coinage, including an Empress of India rupee; parchment copy of Dr. Birch's translation of the obelisk hieroglyphics; standard gauge to one-thousandth part of an inch; portrait of the Queen; Bible in several languages; the Hebrew Pentateuch; the Arabic Genesis, and a translation into 215 languages of the sixteenth verse of the third chapter of St. John's Gospel; Bradshaw's Railway Guide; Mappin's shilling razor; a case of cigars, pipes, box of hairpins, and sundry articles of female adornment; Alexandra feeding-bottle and children's toys; a Tangye hydraulic jack, such as was used in raising the obelisk; wire ropes and specimens of marine cables; map of London; copies of the daily and illustrated papers; photographs of a dozen pretty Englishwomen (presented by gallant Captain Carter, commander of the "Cleopatra"); a two-foot rule; a London Directory; and Whitaker's

Almanack—which collection, I should say, take high rank in the list of treasures buried in foundation-stones.

* * *

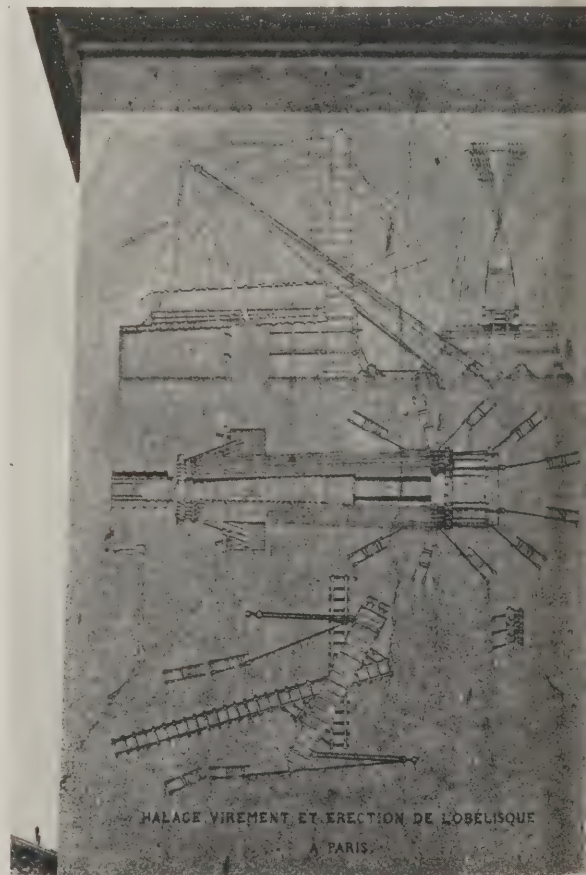
Nothing now remained to be done but to add the bronze sphinxes, and the bronze work and clasp which hide the broken-away bottom corners and edges of the obelisk. Vulliamy, architect to the Metropolitan Board of Works, entrusted with this work, and very admirably carried it out. The sphinxes are enlarged additions, from the small stone sphinx in the collection of the Duke of Northumberland at Alnwick Castle, which is supposed to be of the same date as the obelisk itself—about B.C. 1590.

* * *

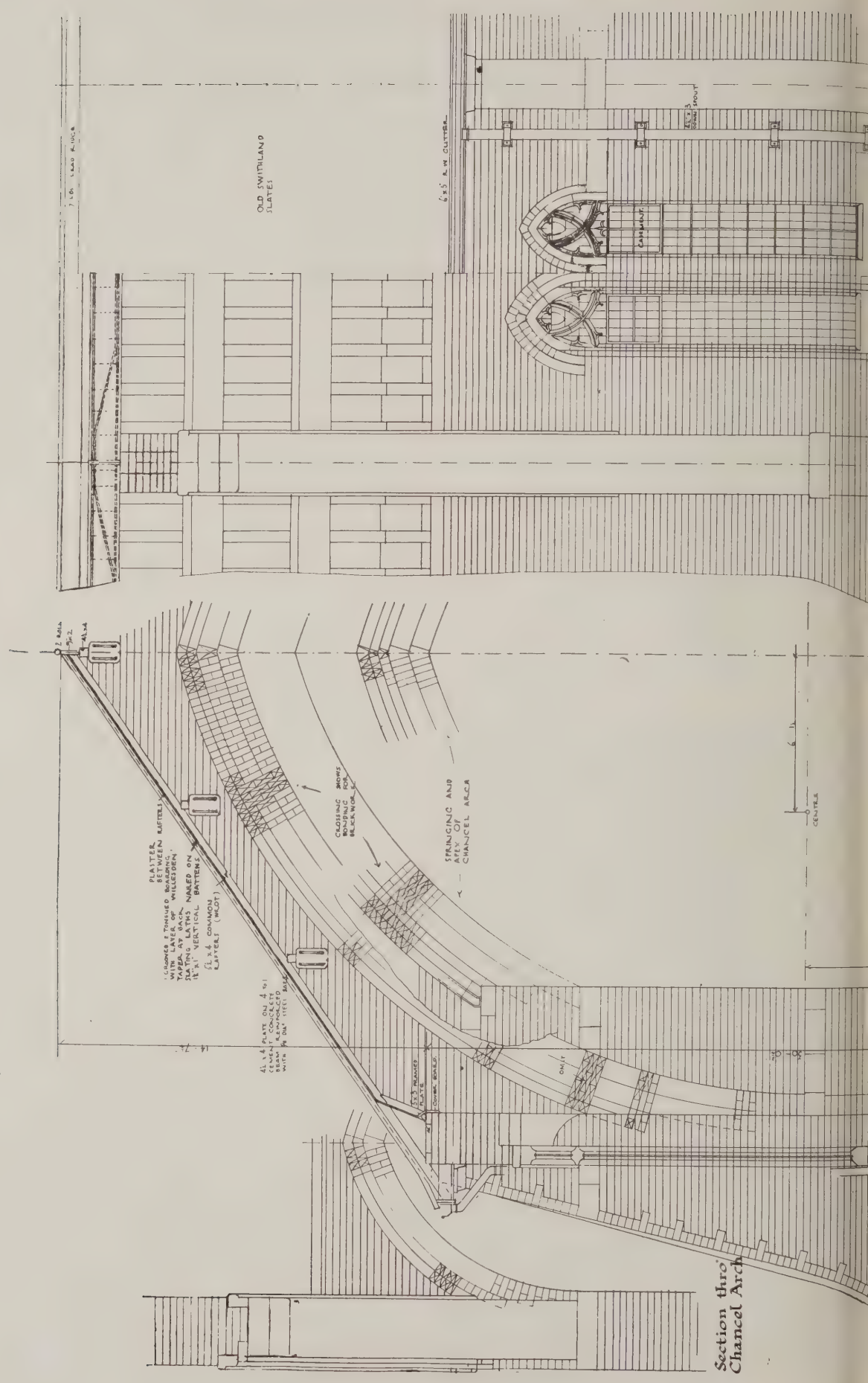
The obelisk had originally been erected in front of the great temple at Heliopolis. It was removed to Alexandria and re-erected there in front of the Temple of the Cæsars during the reign of Augustus B.C. 22, and as that is the time of Anthony and Cleopatra's association with the "Needle" so it is an inevitable one. The monolith was thrown by an earthquake in the thirteenth century, and so lay in the sands of Alexandria till we brought it away here years ago. It is as much an exotic on the Thames Embankment as Rodin's "Burghers of Calais" in the gardens next the Houses of Parliament. I should be sorry to see it mauled by a Zeppelin bomb. I always have an eye for it as I go that the sphinxes and Vulliamy's sphinxes are a worthy modern addition to the stone of the Egyptians. They look out over the past and upon the present, and are suggestive sentinels to this fragment of antiquity.

* * *

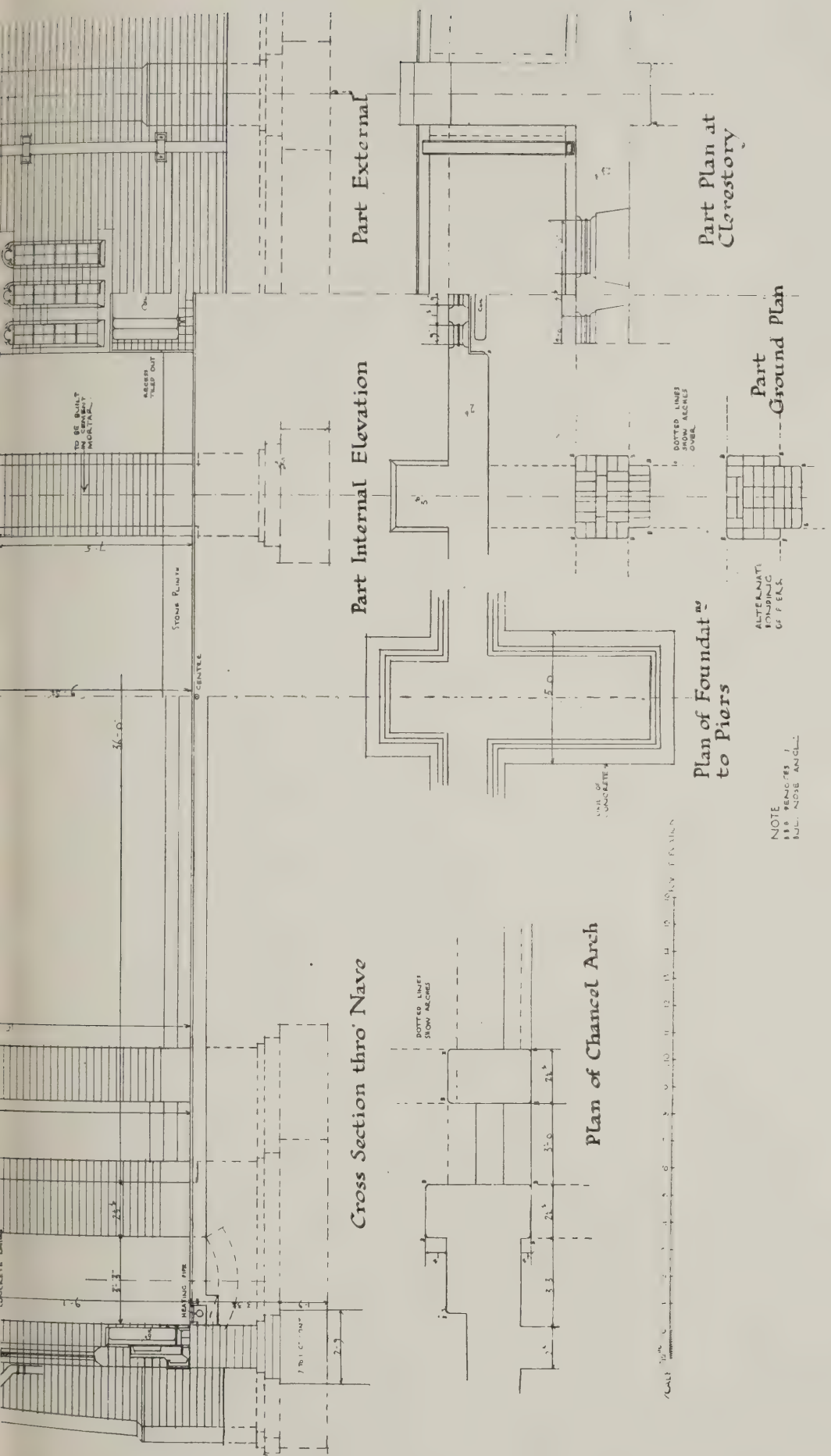
Our own obelisk, though a mighty stone, is but a means the biggest of its kind. It is greatly exceeded by the huge Needle that stands next the Church of St. Peter's in Rome.



INCISED INSCRIPTION ON PEDESTAL OF LUXOR OBELISK
PLACE DE LA CONCORDE, PARIS.



Section thro
Chancel Arch



NOTE
 180 PENCE
 FULL NOSE ANGLE

ALTERNATE
 FINISHING
 OF FLOOR

Scale 1/4" = 1'-0"

WORKING DRAWINGS BY WELL-KNOWN ARCHITECTS (SERIES II). XIII.—ST. PHILIP'S CHURCH, EVINGTON, LEICESTER,
 EVERARD, SON AND PICK, ARCHITECTS.



CURRENT ARCHITECTURE (SERIES II.). XLV.—ST. PHILIP'S CHURCH, EVINGTON, LEICESTER.

EVERARD, SON AND PICK, ARCHITECTS.



SMALL HOUSES OF THE LATE GEORGIAN PERIOD (SERIES II.). IV.—HURST COTTAGE, HAMPTON, MIDDLESEX.

*Details of Matings & Enrichments
In the Large Cells.*

Measured & Drawn by
J. W. G. G. G. G.
April, 1911.

MANCHESTER OLD TOWN HALL. XV.—MOULDINGS AND ENRICHMENTS IN LARGE HALL.

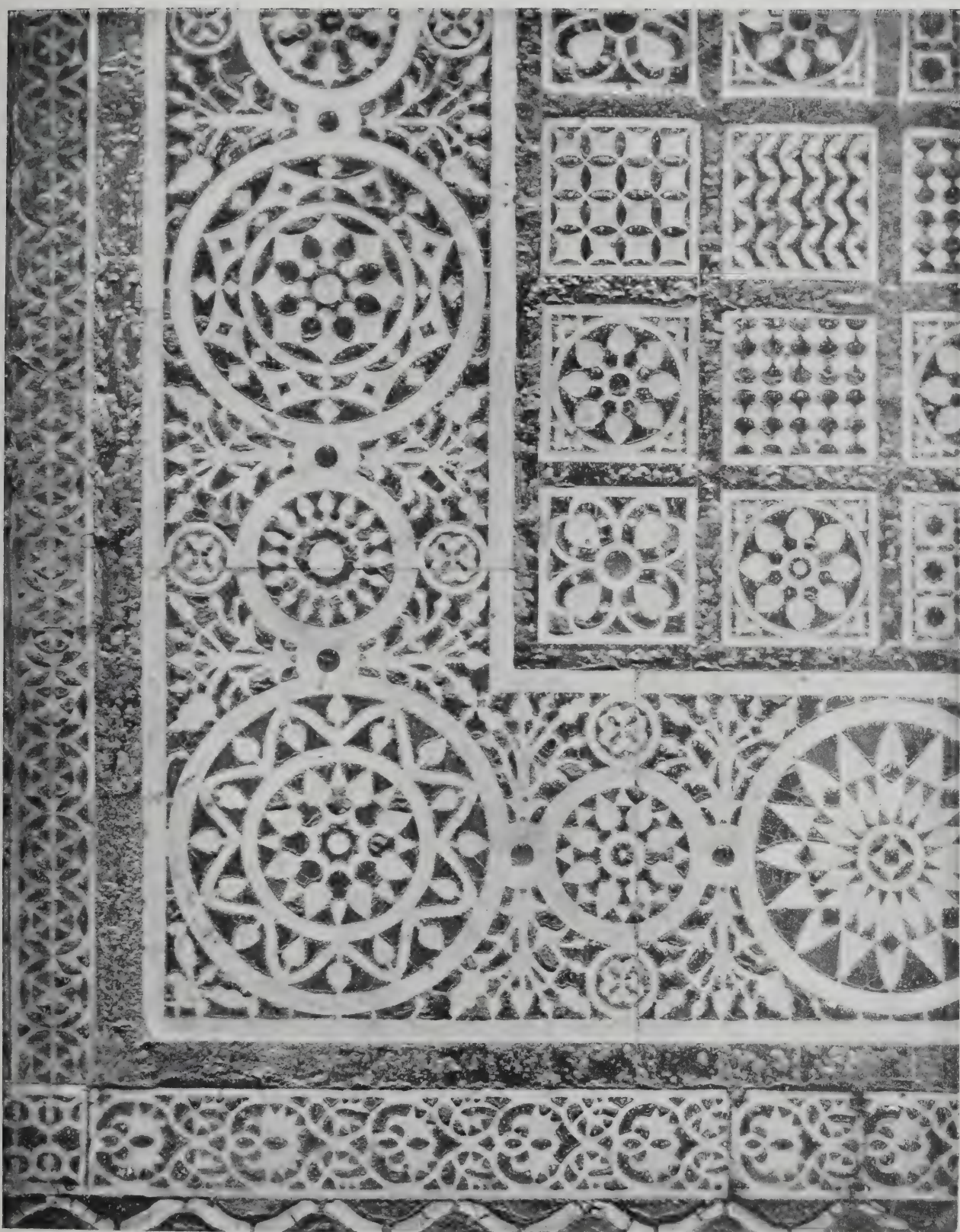
MEASURED AND DRAWN BY GORDON HEMM.



STUDENTS' DRAWINGS (SERIES II.). II.—MAIN ENTRANCE DOORWAY, ST. GEORGE'S HALL, LIVERPOOL.
MEASURED AND DRAWN BY J. J. WILLIAMS.



TABLETS AND INSCRIPTIONS.—XIV.



DETAILS OF CRAFTSMANSHIP. XXXV. — PAVEMENT IN THE BAPTISTERY, FLORENCE.

(A.D. 1200).

John Lateran, in Rome. This is no less than 40 ft. high, ranking, with its sister obelisk at Alexandria, as the largest single stone in existence. I have already recounted the trouble we ourselves experienced in handling Cleopatra's Needle. What shall be said of the task of setting up this much heavier stone? Marcellinus gives us a glimpse of the task in his contemporary account of how the Romans brought away the monster: "And when it had been carried down the Nile," he says, "and landed at Alexandria, a ship of burden hitherto untried, requiring three hundred rowers to propel it, was built. But when these preparations were completed, and after Constantine had died, the enterprise began to cool. At last, however, it was put on a barge, and conveyed over sea and up the Tiber, where it seemed as if we were frightened lest its own weight should hardly be equal to conveying it from the almost unknown Nile to the walls of Rome itself cherished. Finally, the obelisk arrived 16 miles from the city, where it was placed in a barge and drawn slowly on, and brought through the Porta Ostia gate and the public fish market to the Forum of Maximus. The only work remaining to be done was to raise it, which was generally believed to be hardly, if at all, practicable. And vast beams of wood had been raised on end in a most dangerous manner, so that they looked like a grove of machines, the ropes of huge size were fastened to them, filling the very sky with their density, as they formed a web of innumerable threads; and into them the great stone itself, covered over as it is with hieroglyphs of writing, was bound, and gradually lowered into the empty air, and long suspended, many thousands of men turning it round and round like a top till it was at last placed in the middle of the Piazza. . . ."

1836, in the presence of 200,000 people. Everything went off most successfully, and there were great celebrations and rejoicings, culminating (very agreeably to those intimately concerned) with the gift of 4,000 francs and the Legion of Honour for Le Bas, and 3,000 francs for the workmen engaged. A very decorous record was sealed within the pedestal, consisting simply of a cedar box containing a set of gold and silver current coins of the realm and two medals bearing the effigy of Louis Philippe; in comparison with which the bizarre collection within the pedestal of Cleopatra's Needle seems almost frivolous, though, as a fact, the latter gives a far more complete idea of the life of the times.

In connection with my notes on the bringing home of Cleopatra's Needle, Mr. E. J. May, F.R.I.B.A., sends me a letter in which he says: "It may interest you to see the enclosed tracing of the sketch I made from life of the vessel it came over in, soon after it arrived in the docks in London—in 1878. I remember there was a hole in the top into which we looked and saw the Needle lying inside, though I can't see the hole in the sketch."



UBIQUE.

THE PLATES.

St. Philip's Church, Leicester.

THIS example of a modern brick church is interesting, more especially from the constructional point of view. As will be seen from the double-page plate in this issue, reinforced concrete has been used in the construction of the roof. A plan of the church is given on page 146, Messrs. Everard, Son, and Pick, of Leicester, were the architects.

Hurst Cottage, Hampton.

This house has a very pleasant setting, though the tree in front of the bay window could well be spared. The treatment of the bay itself is the main interest. It is quite plain, but relieved by the sinkings around the windows and by the elegant balcony at the top.

Manchester Old Town Hall Mouldings.

The plate shows the mouldings and enrichments in the large hall.

Main Entrance to St. George's Hall.

The drawing reproduced, by Mr. J. J. Williams, of the Liverpool School of Architecture, shows the main entrance to St. George's Hall. This is Cockerell's work. The door is of bronze.

A Wall Tablet.

As explained before, we have some illustrations in this series the precise locality of which we are unable to trace. The tablet now illustrated is one of them. It is a very characteristic example of the eighteenth century. The incised lettering is of especially good character.

Pavement in the Baptistery, Florence.

The Baptistery at Florence offers many rich examples of marble ornamentation, among the details of this kind being the fine pavement, of which we illustrate a portion.

When, in the 'thirties, the French undertook the task of removing the Luxor obelisk and setting it in their Place de la Concorde, they had a smaller barge to handle, though it was considerably greater than that which we had to deal with forty years later. To the marine engineer Le Bas was entrusted the undertaking. Le Bas was an extremely small man, and on that account the *mot* went round that his achievement was in inverse proportion to his own height. The Luxor obelisk weighs 230 tons and is 75 ft. high. It stood originally in front of the Ramesseum. It was erect there when the French made its acquaintance, tapping it familiarly with a hammer, thereby revealing the existence of a crack at the base, which, however, though it gave rise to misgivings—being 12 ft. long—behaved well and did not imperil matters. Our own obelisk was, as I have said, prostrate in the sands of Alexandria, so Le Bas had the additional trouble of lowering the Luxor monster from the vertical to the horizontal, but when that had been done he had the advantage of a much easier manner of getting the obelisk away. A suitable barge-like craft was built, when the Nile had risen to the full, no difficulty was experienced in laying the stone on this craft and floating it off. The voyage home was quite successful. The craft was brought up the Seine, and deposited its burden on a ramp next the Pont de la Concorde. Considerable delay now occurred. Finally, however, with great capstans, innumerable ropes and pulleys, and a profuse supply of rope, an army of men hauled the obelisk up the ramp to the Place; and, when the pedestal was in place, another slope was built up to it, and the hauling process commenced afresh. The actual raising of the obelisk, which was accomplished in the manner shown by the accompanying illustration—a photograph of the incised gilt diagram on the face of the pedestal—took place on October 25,

THE SOLDIER AS A FACTOR IN ROMAN ARCHITECTURE.

BY HALSEY RICARDO, F.R.I.B.A.

IN the days when one had to make, perforce, transcripts of Cæsar's Commentaries on his Gallic Wars, I remember being impressed by the fact that war in those days had its season (the Franco-Prussian war was then going on regardless of the Calendar and the weather), that it was a summer matter, and that when the days grew short both sides agreed to hibernate, and there was to be no resumption of hostilities until the spring should be well under way. Cæsar reports that his campaigns for the year are over, submits an account of his victories, the loss on both sides, the amount of marching done and new country opened up; states that his legions are, at the time of reporting, comfortably housed in winter quarters; and he himself crosses the Alps and hurries down to Rome to answer in person all necessary particulars, and to attend to his own private affairs. We may put, at an easy estimate, the numbers of his soldiers left in Gaul at 50,000, and the question that touched one's fancy was—what did they do with themselves during their enforced respite from fighting? It is clear that they must have been kept pretty actively employed, else they would have got out of hand, and we are not allowed to hear of any mutinies during the Emperor's absence. The principles of Roman construction supply the answer. The two salient and primary characteristics of Roman building are (a) that it can be done by unskilled labour under skilled direction, and (b) a kind of agonised ingenuity to be quit of the carpenter with his wood scaffoldings and timber centerings. This independence of the carpenter was brought home to the builder in a very matter-of-fact way. In the queue of requisitioners for timber he came a long way down, and his requirements could only be satisfied after the more importunate and indispensable demands had been satisfied.

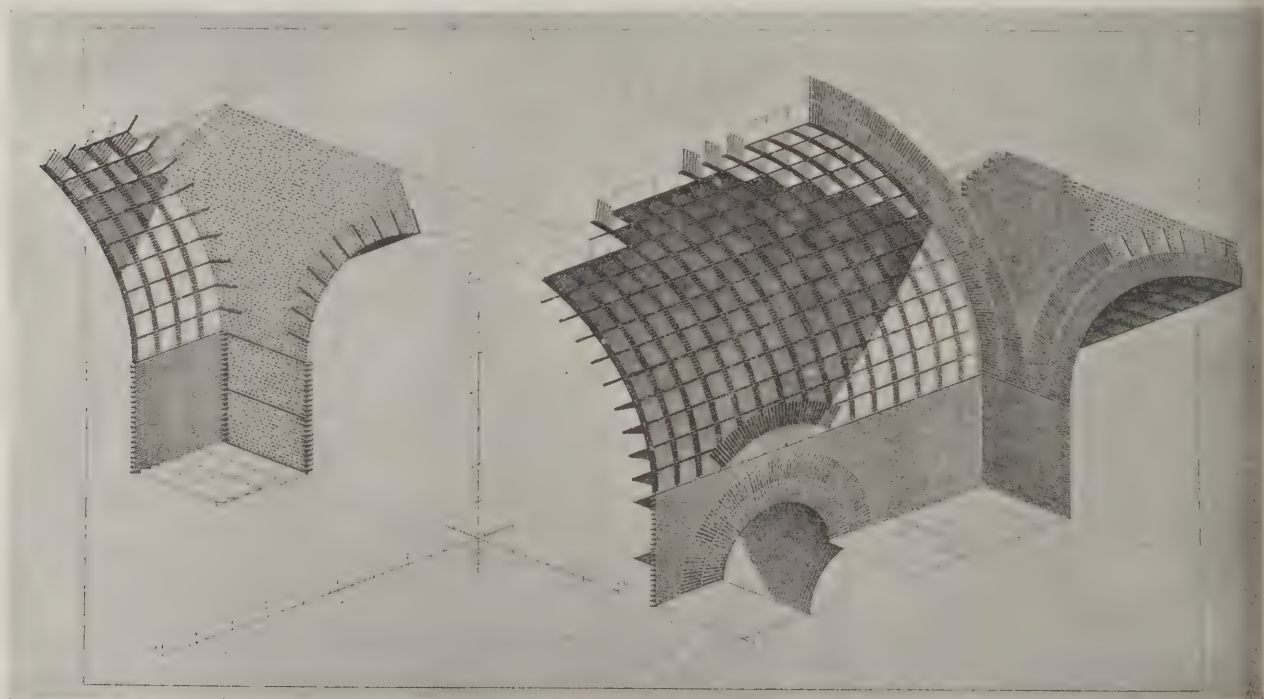
In camp wood was wanted for stockades, for repairing the pents, cages, and shelters for the miners, for the construction of movable turrets, for bridges to cross the river now and on march, for the catapults and battering-rams, for the armourer's forges, for the tile-maker and lime-burner. But the largest demand of all was for fuel, for cooking and for heating the buildings within the walls. We who are accustomed to coal are apt to forget how much more wood is required to produce a given amount of heat. And then, to add to his other handicaps, the builder required his timber squared or in planks, and there would probably be incessant grievances and insupportable delays owing to the carpenters having difficulties with their sawyers.

In cantonments, then, building was done by the soldier, with forced labour from the captives, and possibly also from impressed natives. It had to be done by men who were mainly stupid, largely unwilling, and to some degree malicious. These disabilities were kept in check and mastered by the superintendence of the officers and higher ranks of the soldiery, who plotted out the work to be done and supervised its execution. And the standard so set by the Roman Army became the standard of construction at home as well as in the provinces, in the capital as well as in the military headquarters. Retired captains and soldiers built their houses and farm-sheds, made their roads, after the methods they had used when in service. Others gravitating to Rome were ready to act as foremen and clerks of the works: they were accustomed to dealing with slaves, prisoners, and deserters, and knew how to get the maximum of work out of man, willing or unwilling. Moreover, they had been trained in a school where decision and promptitude were vital elements. In the face of the enemy, if the carpenter's work

is not forthcoming, some substitute had to be found on the spot; imminent destruction is a desperate quickener of ingenuity. Besides, the life of the soldiery depended on the soundness of the design, the thoroughness of the workman's execution—scamping could be tolerated; the general's eyes had to be everywhere, like a hawk's, and his talons as rapid. He can fancy his sense of experience—expansion—when put in command of a job in Rome, with all the appliances curable in the city at his command, with all his habits of nervous impetuosity still ingrain; building material of the best, cement incomparable, water very stint.

Previous monumental architecture, the architecture of Greece and Egypt and Assyria had been mason's architecture, careful of the length of being virtually sculpture. The blocks of marble used to sustain a Greek temple are worked with a sculptor's finesse and accuracy and with such delicacy that mortar could be a mere film of easement, scarcely as in the architecture of the Romans. It was the product of the supply of skilled labour. No Greek soldier had hand in such work, nor had he been schooled in the enforced leisure of the Roman.

The expansion of Rome under the emperors was going on at a terrific pace, and, except in the matter of some traditional temples, it would be idle to attempt to build sculpturally in stone, although Rome was swarming with Greek architects, men from Alexandria and Asia Minor as well as from Hellas itself. Great vaults had to be covered, vaster than had been attempted before, and the discipline of the Roman centurion was quite ready to tempt any project, undismayed by proposed dimensions. Concrete was the material. Concrete was what he had, and what he could entrust his labours



THE CONSTRUCTION OF THE ROMAN ARCH.

(From "L'Art de Bâtir chez les Romains," by Auguste Choisy)

and with concrete the vault was the best mode of covering in large areas. Centering was the trouble. Choisy's words are eloquent of the poor man's efforts to make the best of insufficient resources. He couldn't keep his men idle, the carpenters attempted to do their work: he must do it as well as he can with the bricks or tiles and the timber at his disposal. His business was to center the vaulting with an arch of brick work or by plating it with timber, but the centres were not strong enough to carry this additional weight without deformation. He had, therefore, in closing up the arch or putting the courses of tiles on its summit, to substitute its haunches so as to counteract the tendency of the arch to bulge there; on the other hand, he must choose the proper amount to complete his brick work before the pressure on the haunches squeezed the arch out of the circle into a parabolic or hyperbolic shape. Once the ring was closed in, or the centering completed, the work could go on mechanically and the centering moved to the next bay, as soon as the concrete had set sufficiently. And the necessity of these interstices he lessened in many of the most ingenious ways—one by using coffering in the vault; these cofferings were really in the nature of flat domes or cones, and the difference of material thus primarily lightening the weight of the vault itself, besides saving something in the matter of time, labour, and material. You can detect the overseer's eye everywhere, always on the look-out to use the material, to make any saving, however small, to do exactly what is wanted with the least consideration of appearance. His duty was to make his building conform to the formulated dimensions: it was to be convenient, thoroughly considered provision for flues, waste pipes, supply, etc.; and it was to be done, the arrangements seem to indicate, against with no unnecessary refinement of finish. That was the job he guaranteed. Then came the decorator with his stucco, gilding, and mosaic. He had, of course, all through been a close arrangement between them; he left his offsets, his stone templates forth (much as the bricklayer produces his concrete blocks and wood joints for the joiner), and the decorator tried to mask every bit of the construction with his appliqué ornamentation. The decorator, I am inclined to think, was a Greek, without a conscience. It was his part to apply the architectural ornament as far as the funds would permit, as these seem to have been generally lavish the ornamentation was, regardless of taste or reticence, glorifying and characterising the unimportant sumptuousness of the donors of the undiscriminated decorations. Meanwhile the soldier foreman, we may suppose, was told off to superintend the erection of the last new aqueduct into Rome, while the hydraulic engineering going on at Ostia or on the Alban Hills. I picture him with a Rhine veteran to look after the fountains and his basins; he may suppose that in cold weather the water would have much to say upon the severity of the winter in Central Italy, and the precautions the army had to adopt there to weather it. He may take the moral of this kind of construction to himself, for we are sometimes in the same position. We, too, have our stores of unskilled labour, and our machines in the more compact form

The Roman centurion and master-builder could draw upon the artisans, the soldiers, the slaves, and the prisoners to take part in the raising of these stupendous walls, piers, and vaults; a few skilled men were needed to supervise the digging of the pozzolana; to turn out the necessary large and small tiles that played their various functions in the construction of these masses; to see that the army of hodmen deposited the stones, sherds, and brickbats evenly on the beds of cement mortar, that the mixers of this mortar tempered it with the proper quantity of water, and that the second army of hodmen carried this on to the building and properly grouted it in to the first army's deposit of stones. The thousands who composed these armies had only to do what they were told; the work was purely mechanical. We achieve the same result by machinery. The mortar-mill and concrete-mixer, the steam-crane and pulsometer, are merely condensed forms of human energy; with this advantage, however, that each engine acts, so to speak, unanimously, and therefore the more economically. Nor have we the same need to minimise the use of temporary timbers in our construction that the Romans had to practise.

With the circular saw driven by steam we can slice up a baulk of wood as easily as we slice a carrot and almost as quickly. But we are not, for that reason, justified in wasting it. I could not but reflect, when they were building the Roman Catholic cathedral at Westminster—and one walked

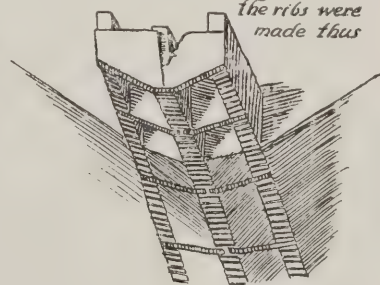
in a forest of mighty timbers, tall, massive, elaborately trussed and strutted, with boarded centerings to carry the tons of concrete doming that were to come—that we were but a dull folk compared to the citizen of Imperial Rome. The forest of timbers was picturesque, impressive in its quantity and solidity, and a discredit to us as mechanics. What was wanted was a slight steel hencoop erected in place at the springing level of the domes, to be ultimately embedded in the concrete shell. To spend thousands of pounds on a timber underpinning to the cathedral roof was unadventurous and also unintelligent. Such a constructor would have been crucified by Cæsar before he had got half way through an explanation of his proposals as a monstrous incompetent, and the army would be shyer than ever over its indents to the general for its wood supplies. It looks as though the spur of war were needed to develop our faculties imaginatively. The push of commerce does much, our railways and merchant ships have a dramatic force about them, but in romance and daring they are not to be compared with our guns and our men-of-war, our submarines, and the delicately beautiful machinery of warfare.

Probably the best movement that has been started during the last two or three generations is the boy-scouts' organisation. A man's shadow ought to be more akin to Death than to the Policeman if the Man himself is to walk heroically.

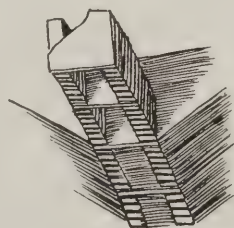
Where the vaults intersected and the system of tiles laid flat on open centering was used, the groins were strengthened by big tiles as shown



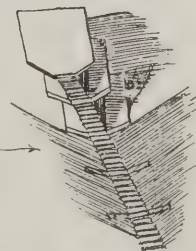
Where the face of the vaults was not tile-plated, and permanent brick and tile centering was used, the ribs were made thus



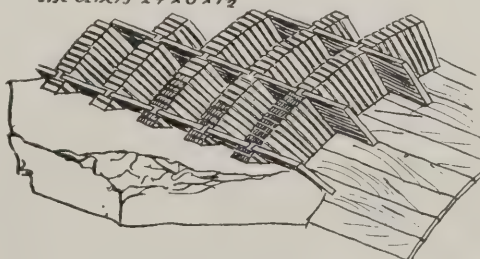
Where the vaults were smaller, or intermediate ribs were required, they were made like this



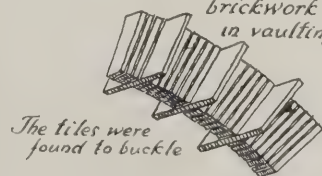
or like this



The square bricks measure 24x24" the others 24x6x1 1/2"



An early method of reducing the quantity of brickwork in vaulting



CONSTRUCTION OF ROMAN VAULTS.

(From "L'Art de Bâtir chez les Romains," by Auguste Choisy.)

ARCHITECTS' BOOKKEEPING.

[SPECIALLY CONTRIBUTED BY A CHARTERED ACCOUNTANT.]

(Concluded from page 131, No. 1081.)

II. Financial Books.

(a) Works Ledger. This is an indexed account book for recording the work done on every job or commission. It is ruled with three money columns for—

(a) fees.

(b) outlays paid from Petty Cash (copied here from the Petty Cash Book).

and (c) the total of (a) and (b) to be transferred through the medium of the Journal to the Client's account in the Clients' Ledger.

Each job should have a separate page (or pages) and the name of the job and the number of the page should be entered in the index.

The information entered in the various accounts is copied from the Diaries and the Petty Cash Book, and from those books only.

Fig. 6 shows a specimen account in the Works Ledger.

(b) Clients Ledger (with index). An account would be opened in this ledger for each client. The ruling necessary is the ordinary ledger ruling supplied by any stationer.

On the debit or left-hand side of the account should be recorded all charges and disbursements recoverable from the client and on the credit or right-hand side all cash received from him and all allowances granted him.

The debit side of each account be entered up from:—

(a) the Journal

(b) the Cash Book—paid (the Petty Cash Book).

The credit side should be entered from the received side of the Cash Book.

This Ledger shows the sums of the business by clients, or by the business to clients.

Each account should be entered in the index.

(c) Journal. This book is the medium through which the totals from the Clients' Ledger are transferred to the Private Ledger. It also acts as the medium for charging the monthly postages (as ascertained from the Postage Book) to the accounts of the different clients.

It is ruled as shown in Fig. 7:—

The money columns are used for the following purposes:—

(1) In this column are entered sums to be charged against clients in the Clients' Ledger.

(2) The proportion of the charges entered in column (1), which represent fees or commission, is extended to column (2), and the total of this column is yearly carried from this book to the credit of "Fees and Commission" account in the Private Ledger.

(3) The Petty Cash outlays are entered in the amounts entered in column (1) are extended to column (3) and the total of this column is yearly transferred to the credit of "Clients' Disbursements" account in the Private Ledger.

(4) The monthly postages charged to the different clients are entered in column (1) and from there are extended to the debit of the clients' accounts in the Clients' Ledger. They are also extended to column (4), the total of which is yearly transferred to the credit of "postages" account in the Private Ledger.

(5) Sundries. Should there be any charge to a person some which is neither a fee, commission, cash disbursement nor postages, this should be extended from column (1) to column (5). An example of a transaction would be where the architect had sold, say, a typewriter to some one or had sublet part of his office.

In the former case, should he have the typewriter for £10, this sum should be entered in column (1) and extended to column (5) and there should be a charge against the item and in the "rent" column "typewriter sold." In the latter case, charging this £10 to the debit of the buyer, the amount would have been posted from the sundries column to the credit of "Office Furnishings" Account in the Private Ledger.

In the case of the sub-letting of the office, the rent note rendered by the sub-tenant would be entered in the Journal into column (1) and extended to column (5). The amount in column (1) would be posted to the debit of the sub-tenant's account in the Clients' Ledger, and the amount in the Sundries Column posted to the credit of the "Office Furnishings" Account in the Private Ledger.

John Smith for Villa "Heathleige."

Date.	Details.	Fees.	Petty Cash Outlays.	Total transferred to Clients' Ledger.
1913 Jan.				
1	On receipt of instructions, visiting and measuring site.			
2	Train fare		2 6	
3	On sketch plan.			
4	do.			
6	Meeting you, discussing sketch plan and taking your further instructions.			
7	At working drawings and specifications.			
8	do.			
9	do.			
10	do.			
11	do.			
13	Advertising for tenders.			
21	Received tenders and forwarded list to you.			
23	Received your instructions to accept Messrs. Ess, Tee and Co's tender at £1260.			
24	Accepted tender and furnished Contractor with plans and specifications.			
27	Visited site with Contractor and pegged out house.			
30	Train fares.		5 0	
30	Visited site inspecting work.			
Feb. 3	Train fare.		2 6	
17	Visited site inspecting work.			
17	Inspected work.		2 6	
March 4	Train fare.		2 6	
18	Inspected work.		2 6	
April 1	Train fare.		2 0	
15	Inspected work.		2 6	
17	Train fare.		2 6	
17	Received your instructions re alteration in wing of building.			
20	Sent plans of alteration in wing to contractor.			
29	Inspected work.			
May 13	Train fare.		2 6	
27	Inspected work.		2 6	
June 10	Train fare.		2 6	
17	Inspected work.		2 0	
	Examining, checking and closing accounts.	65 0 0		
	Commission.			
	Transfer per Journal to Clients' Ledger.			66 15 0
		65 0 0	1 15 0	66 15 0

Fig. 6. Works Ledger.

Date.		Works Ledger Folio	Client's name.	Cl. Led. Fo.	Amount to charge to Clients' Ledger.			Analysis.					Remarks.				
								Fees.	Petty cash Outlays.	Posts.	Sundries	P. L. Fo.					
1913					10	15	0	10	10	0	5	0					
Jan.	4	3	James Ross.	14	10	15	0	10	10	0	5	0					
	6	"	Arthur White.	20	3	3	0										
	7	16	Rev. J. Joss.	51	16	2	5	15	15	0	7	6	3	3	0		
	31	"	James Ross.	14	1	2							1	2			
	"	"	Rev. J. Joss.	51		7							7				
	"	"	Col. Jones-Smith.	64		1	0						1	0			
					32	3	3	26	5	0	12	6	2	9	3	3	0

Fig. 7. Journal.

column headed "payments recovered from clients," containing sums to be paid up to clients, is posted differently from the others. Every separate item appearing in it has to be posted into the Credit Ledger and to the debit of the Credit of the client to whom or on behalf of whom the payment has been made. The folio of the Clients' Account is entered in the column headed "payments recovered from clients' Ledger folio," to show that the

(f) **Private Ledger.** In this ledger should be kept the accounts for expenses, fees and furnishings, Profit and Loss Account, and the proprietor's capital and

From the fees would be deducted the estimated fees earned but not rendered, which had been added in the preceding year's Profit and Loss Account, and from the various expenses the unpaid accounts included in the preceding year's Profit and Loss Account.

Date of Cheque.	Cash Book Folio.	Amt. of Cheque	Date.	Particulars of payments.	Amount paid.	Analysis of payments.							
						Travelling expenses.							
						Office expenses.							
						Drawing materials.							
						Stamps and Stationery							
						Works Ledger Folio.							
						Outlays chargeable to Clients.							

Fig. 9. Petty Cash Book.

	Analysis.
From whom received.	Clients' Ledger Folio. Amount received and lodged in Bank. Discount and Allowances Date. Receipt number.
Particulars of Payments.	
Cheques drawn.	
Private Drawings	
Salaries	
Office Furnishings	
Drawing Materials and Stationery.	
Rent, Rates and Insurance	
Fire and Light	
Office Expenses	
Petty Cash	
Clients' Ledger Folio	
Payments Recoverable from Clients	

Fig. 8. Cash Book

The Profit and Loss Account, when completed, would have the appearance of Fig. 10.

It will be observed that there has been deducted from various items the sums owing at the beginning of the year. These are the sums that had been added in the previous year's Profit and Loss Account, and in consequence charged in the previous year although not paid until the present year.

The Balance Sheet.

A Balance Sheet should then be prepared to show the position of the business and this statement is arranged so as to show on one side the assets of the business and on the other the liabilities and capital. The proprietor's capital account is a liability, being the sum owing to the proprietor by the business.

The Balance Sheet would be in the form shown in Fig. 11.

As will be evident, many of the "office organisation" books are more convenient than essential, yet a complete system installed at the commencement of a practice is always there to meet future development, and is to be recommended.

The financial books are essential to a full record, and when once the system is understood are easily entered up. They should invariably be kept entered up to date.

EDUCATIONAL PROSPECTUSES.

To the particulars of the several educational prospectuses for the autumn and winter sessions which were published in our issue for last week the following are appended:

The Architectural Association School of Architecture.

The Architectural Association School of Architecture, the headmaster of which is Mr. Robert Atkinson, A.R.I.B.A., provides a course of three years in its day school, the satisfactory completion of which course entitles the student to a certificate exempting him from the R.I.B.A. Intermediate Examination.

The Royal Academy have agreed to admit to their architectural school without the usual examination for probationers (except in the subject of design) all students of the Architectural Association who have obtained their certificates after three years in the day school. In this way a continuous and systematic course of architectural training is provided, and one which fully takes into account and provides for the fact that the requirements of the day, and the conditions of the Final Examination for membership of the Royal Institute of British Architects, necessitate a high standard of training for students in architecture. The Association recommends its students to follow the course above outlined, and points out that by so doing they

become eligible to compete for the prizes of the Royal Academy and to the benefits of meeting and working with other students in the sister arts of painting and sculpture.

At the Architectural Association classes and lectures for other subjects are arranged in the curriculum for advanced students who are preparing for the R.I.B.A. Final Examination.

Any student who fails to gain a certificate at the end of the third-year can enter the evening school with a view to the object of gaining the certificate at the end of that course, but in this case he will not be eligible for exemption from the Royal Academy Examination for probationers.

Whilst it cannot be too strongly urged that this course of three or four years is itself only a preliminary training, the complex and varied calling of an architect it is claimed that the day school forms the basis of subsequent training, thereby enabling a student to take later the practical routine of training, with a fuller understanding of the subject without waste of time.

Full particulars can be obtained from the Secretary of the Association, Tufton Street, Westminster. The term began on September 27.

Architecture and Civic Design, Liverpool University.

At the School of Architecture, Liverpool University, which is one of the schools recognised by the Board of Architectural Education, the teaching is based upon the methods of the École des Beaux Arts in Paris and of the École des Arts et Métiers in France. It can meet our somewhat different requirements. By this is meant that while the student is taught design on a basis of monumental planning in order to equip him with the means by which to approach with confidence the larger problems and presents, an attempt is also made to give him that intimate knowledge of materials, and construction which distinguishes the best English work. The double end in view, after combining in his first year of simple construction the elements of architectural practice, he passes, in his second and later years, a progressive series of designs for constructional and monumental character. For the latter he makes carefully drawn drawings; for the former all the and working drawings necessary to construct. This work is carried on in the main studio of the school under the supervision, and the lecture courses are designed to run parallel to it.

The courses lead to the combination of the certificate and Degree of Bachelor of Architecture (B.Arch.), and to the combination of the certificate and Diploma in Architecture. The University grants the certificate at the end of the first half of either the degree or diploma course: students who obtain a certificate in the first class are exempt from the R.I.B.A. Intermediate Examination, while during their course for the diploma they are able to prepare designs now required by the Institution. The testimonies of study for the Final Examination.

The School of Civic Design, founded in 1909, was the first school in this country exclusively designed to meet the needs of students who wish to study town planning. Although intimately connected with architecture and engineering, town planning is a distinct and separate study in which the primary object of the school is to give architects, engineers, and others a knowledge of the supplementary

Dr.				Profit and Loss Account for the Year to 31st Dec., 1913.				Cr.			
To SALARIES				250	0	0		By FEES AND COMMISSIONS rendered			
" RENT, RATES, &c. paid				52	0	0		1000			
" Add accrued to Dec. 31/13				8	0	0		Add fees earned but not rendered			
				100	0	0		300			
Less accrued on Jan. 1/13				6	0	0	54	1300			
DRAWING MATERIALS				10	0	0		Less			
Add owing Dec. 31/13				2	2	0		Fees earned but not rendered on Jan. 1, 1913.			
				12	2	0		200			
Less owing Jan. 1/13				1	10	0	10	1100			
" FIRE AND LIGHT				2	15	9		" BANK INTEREST			
Add owing Dec. 31/13				1	5	0		5			
				4	0	9					
Less owing Jan. 1/13				1	0	0	3				
" OFFICE EXPENSES				15	0	0					
Add owing Dec. 31/13				4	7	6					
				19	7	6					
Less owing Jan. 1/13				7	2	0	12				
" TRAVELLING EXPENSES							23				
" POSTS AND STATIONERY							11				
" DEPRECIATION at 5% on Office Furnishings							10				
							374				
" NET PROFIT transferred to Capital a/c							731				
							1105				

Fig. 10. Profit and Loss Account.

Balance Sheet as on 31st December, 1913.

LIABILITIES.				ASSETS.			
SUNDRY CREDITORS for Rent and Rates.				CASH IN HAND per Petty Cash Book.			
Drawing Materials.				CASH AT BANK per Cash Book.			
Fire and Light.				SUNDRY DEBTORS per Clients' Ledger.			
Office expenses.				ESTIMATED WORK IN PROGRESS; being fees earned, but not yet rendered.			
				CLIENTS' DISBURSEMENTS recoverable.			
CAPITAL ACCOUNT.				OFFICE FURNISHINGS.			
Balance Jan. 1, 1913.				Value 1st January 1913.			
Add profit for year to date				Less depreciation at 5%			
				ADD purchased this year			
Less Withdrawals.							

Fig. 11. Balance Sheet.

connotes, and to enable them to with credit those advisory and per-positions which are being created by legislation affecting civic develop-ment and extension is becoming increas-ly efficient. The school is intimately ed with the School of Architecture, students of both schools pursue studies together in the same studio. The arrangement tends to exercise a bene-fluence on each, for although the ment of a town-planning scheme the Act does not necessarily require cy in the advanced forms of smanship, it is highly desirable dents whose natural abilities tend direction should have the opportu-earning the methods of setting up ve views and rendering them in e or colour: such drawings, an nt part of the work taught in the are of great value in explaining ures of a definite town-planning

C. H. Reilly, M.A., F.R.I.B.A., rge of the School of Architecture, of. L. P. Abercrombie, M.A., A., directs the Department of esign. Full particulars of each an be obtained from the Registrar pool University. The new term on October 5.

Central School of Arts and Crafts. im of this school, which is installed rge building at the junction of npton Row and Theobald's Road, ther British industries by careful in design and workmanship. on to the courses of instruction in aft subjects is, within certain extended only to those actually in the trades concerned. The ion given includes architecture and dding crafts (instructors, Messrs. Caulfield, A. D. Davidson, F. H. d, George Jack, R. Garbe, A. W. and J. B. Petch): cabinet work niture; silversmiths' work and rfts; book production; stained mosaic work and decorative paint-awing, design and modelling, and

decorative needlework. Mr. F. V. Bur-ridge is the principal. The autumn term began on September 20.

Manchester School of Technology.

The courses in architecture and build-ing at this fine school are under the direc-tion of Professor Archibald C. Dickie, M.A., A.R.I.B.A., Mr. J. Lindsay Grant, and Mr. W. Leicester, assisted by a large number of part-time lecturers. The autumn term commences on Septem-ber 29.

School of Art Wood-Carving.

The School of Art Wood-Carving, 39, Thurlow Place, South Kensington, which is under Royal patronage, has been re-opened after the usual summer vacation, and we are requested to state that some of the free studentships in the evening classes maintained by means of funds granted to the school by the London County Council are vacant. The day classes of the school are held from 9 to 1 and 2 to 5 on five days of the week, and from 9 to 1 on Saturdays.

A GARDEN CITY LAY-OUT.

We publish below a design for a garden city lay-out, placed first in competition at the recent Royal National Eisteddfod at Bangor, Mr. Henry T. Hare, F.R.I.B.A., assessor. The author is Mr. Geo. McLean, now serving with the forces as second lieutenant, Royal Engineers. The site selected is at the entrance to the Vale of Madoc, being a portion of land reclaimed from the sea. The plan provides for the linking-up of Portmadoc and Tremadoc—two small towns of historic interest, set in the midst of great natural beauty. The town centre is on the western side of the estate, the shopping centre is placed on a main thoroughfare, and the factory area is placed adjoining an existing subsidiary railway and well away from the principal parts of the new "garden city." The workmen's dwellings quarter adjoins the factory area. There are twelve houses to the acre.

NEWS ITEMS.

Shops on the Victoria Embankment.

In connection with the reconstruction of the Temple Station a range of shops will be provided—the first on the Victoria Em-bankment. There will be a restaurant facing on to the river, and new offices for Messrs. Partington, the whole building having a frontage of 280 ft. Mr. H. W. Ford is the architect.

The Fastnet Rock Lighthouse.

The Fastnet Rock, near which the Arabic and the Hesperian were torpedoed, is about $4\frac{1}{2}$ miles south-west of Cape Clear. It is about 310 ft. in length by 180 ft. in width, and 98 ft. above high water. In 1848 Mr. George Halpin, engineer to the port of Dublin, designed a tower 133 ft. high of cast iron, and the work, under-taken by the Commissioners of Irish Lights, was finished in 1854 at a cost of £17,000. Fissures appeared in the rock after ten years, and strengthening works were carried out in 1868 which cost £6,000. A new tower and a more powerful light was decided on in 1890, and completed in 1903 at a cost of £70,387.

L.C.C. Trade Scholarships for Boys.

The London County Council offers about 250 trade scholarships to boys between the ages of $12\frac{1}{2}$ and 16 years. The scholarships provide free education (with maintenance grants ranging from £6 to £15 a year), for one, two, or, in certain cases, three years at trade schools approved by the Council. The instruction provided at these schools is designed to enable boys on leaving school to take up either apprenticeship or employment in skilled trades. Instruction is given in motor-body building, engineering and allied trades, building trades, furniture and woodwork trades, book production, silver-smithing, photo-engraving and photo-process work, and in professional cookery and waiting, to train boys as chefs and waiters. Application form (T.2/258) and full particulars of the scholarships



DESIGN FOR A GARDEN CITY LAY-OUT. BY GEO. McLEAN, 2nd Lieut. R.E.

may be obtained from the Education Officer (T.2), London County Council, Education Offices, Victoria Embankment, W.C., to whom all applications must be forwarded not later than Saturday, October 16.

New Church at Hull.

The Church of St. Nicholas, on Hessle Common, at Hull, has just been completed from the designs of Mr. John Bilson, F.R.I.B.A., F.S.A., selected in competition. Accommodation is provided for a congregation of 700. The church has a western tower of noble proportions, which will be a landmark for miles around the city.

For the Restoration of George Washington's House.

A considerable quantity of stones, to be used in connection with the restoration of George Washington's old house at Mount Vernon, in America, are awaiting shipment from Middlesbrough. A committee of ladies, one from practically every State in the Union, have undertaken the maintenance of the home of the first President of the Republic, and it was their desire to have the restoration carried out with stone from the quarry which supplied the original. After many months of searching, Mr. T. W. Ridley, of Middlesbrough, discovered the identical quarry at Whitehaven. The stones have been cut from the same bed from which the original stones were taken, and have been sent to Middlesbrough for shipment.

Bolling Hall, Bradford.

Bolling Hall, an ancient building which has been associated with the history of Bradford for more than six centuries, has been restored under the auspices of the Museums and Art Galleries Committee. Last week it was formally opened as a corporation institution.

For many years the building has been almost in disuse, apart from a portion which was let for domestic dwellings, and many of the ancient features had been obscured or disfigured. In the process of restoration a considerable amount of fine woodwork, carved and panelled, has been found hidden away behind lath and plaster. A series of old panels are identical in character with similar panels in Hampton Court, carved in the time of Henry VIII. An appropriate collection of

antiquities having a direct bearing upon local history has been placed in the building.

Associated Portland Cement Manufacturers.

At the general meeting of The Associated Portland Cement Manufacturers (1900), Ltd., held in London last week, the fifteenth annual report of the directors was submitted. This stated that the company's operations had been seriously affected by the War, with the result that the profits earned (amounting to £455,711) showed a great reduction on those of the previous year. The demand for cement was considerably reduced, while the cost of production increased, and although as time went on the selling price was raised, this was in respect to new business and did not affect the major portion of the year's trade. Consequently the directors consider that the results are as satisfactory as could reasonably have been expected. A final dividend on the Preference shares, making 5½ per cent., was declared, and £50,000 was set to general reserve and depreciation account.

UNIVERSITY EXTENSION LECTURES IN MUSEUMS.

The courses of university extension lectures in the museums, given by Mr. Banister Fletcher, F.R.I.B.A., will be resumed this session. It has been decided to continue these weekly lectures, both for the sake of students preparing for the university diploma in the history of art, and also for the general public, to whom foreign architectural monuments are for the present inaccessible through war, while British architecture has become of peculiar interest. It is recognised that most people are engaged on munitions and other war work, but, just as recreation is necessary for soldiers in the trenches, so in the same way a change of interest, such as these weekly lectures provide, is equally useful for workers at home, and will enable those who attend such lectures to carry out their national service with the greater efficiency.

The first lecture on "Ancient Architecture" is at the British Museum on Thursday, September 30, at 4.30. The art of the ancient Egyptians, Greeks, and

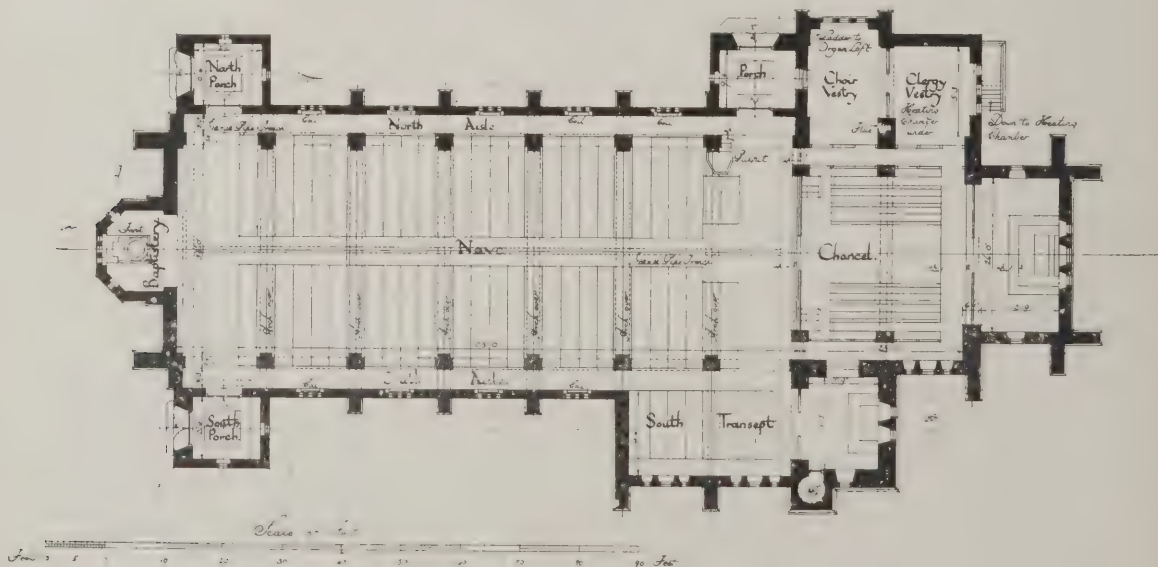
Romans will be unfolded, while the lecture at the Victoria and Albert Museum, Monday, October 4, at 7.15, will introduce the study of Renaissance Architecture, in which England is so particular as to tickets may be had from the Hon. Sec., 10, Woburn Square, London.

A.A. RED CROSS VOLUNTEER AID DETACHMENT.

Mr. F. R. Yerbury, Quartermaster Battalion "Architects" Central London Regiment Volunteers, 18, Tufton Street, Westminster, calls attention to the Cross detachment which has now formed in connection with the Architectural Association. To complete the strength of the detachment further recruits are still required. Any person who holds first-aid certificates given by any recognised authority will be welcomed to membership, and it will be possible to accept as probationers applicants who have had no previous training to qualify for full membership. It is anticipated that the services of the detachment will be in considerable demand, and those wishing to join should communicate with Mr. Yerbury at the address given above.

R.I.B.A. SESSIONAL PAPER 1915-16.

The programme of the forthcoming session of the Royal Institute of British Architects includes the following papers: November 15.—Professor Lethaby on "The Ministry for Architecture and the Ministry of Architecture." December 13.—Mr. T. E. Eccles, F.R.I.B.A., on "A War Hospital in France." January 17.—Mr. Barry Parker, F.R.I.B.A., on "The Housing of the Labouring Classes." February 14.—Mr. W. Curtis Green, F.R.I.B.A., on "The Work of Philip Webb." March 13.—Mr. Edward Warren, F.R.I.B.A., on "Stucco: Its Uses and Abuse in the External Treatment of Buildings." March 27.—Mr. H. D. Searles-Wood, F.R.I.B.A., on "A Building Act for London." April 10.—Professor Beresford Pite, F.R.I.B.A., on "The Decoration of Streets." May 15.—Mr. A. E. Richardson, F.R.I.B.A., on "English Domestic Architecture 1730."



ST. PHILIP'S CHURCH, EVINGTON, LEICESTER. EVERARD, SON AND PICK, ARCHITECTS.

(See page 130).

THE ARCHITECTS' & BUILDERS' JOURNAL.

Wednesday, October 6, 1915.

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No. 155.



(From Piranesi.)

THE ARCHITECTS' & BUILDERS' JOURNAL.

OCTOBER 6, 1915.

TOTHILL STREET, WESTMINSTER.

VOLUME 42. No. 108.

EDITORIAL.

IN breaking wantonly and wilfully every one of the ten commandments, the Germans have recklessly involved the apocryphal eleventh. They have been found out—or, rather, they have revealed themselves for what they are. Where these “educated” barbarians really stand in art as well as in morals is now perfectly plain to all beholders, and there is none of the former generous hesitation to regard the brutality of German art as a genuine expression of the spirit of the race. Thus the “Globe,” in recording that a German professor who has been asked by his Government to advise on the restoration of destroyed and damaged buildings in Belgium advocates that “buildings of artistic value which are partly destroyed are to be restored to their original form, while all new structures are to be of an architectural style to conform with their environment,” comments that the crimes of the destruction of Louvain and Ypres “would be mild compared with the restoration and rebuilding *à la mode du Boche*.” But the reconstruction of Belgium by the Germans is as idle a dream of theirs as was their fantastic ambition of reorganising the universe on Prussian lines. At the present moment, all their powers of reconstruction and reorganisation need to be concentrated on the mending of their broken front and the arrangement of their hurried return home, where, it may be confidently anticipated, they will soon have enough to do in repairing damages that will much more intimately concern them. In the meantime, the airmen of the Allies are affording them a certain amount of preliminary exercise in domestic repairs; for which reprisals we who have witnessed the senseless and murderous dropping of bombs on London cannot be expected to feel any exaggeration of regret. It will be a wholesome discipline for the Boches to be taught by experience that they have no monopoly of the powers of destruction.

At the recent annual conference of the Association of Municipal Authorities of Ireland there was broached a subject that, since the floating of the War Loan, has been constantly in the minds of all who are in any way interested in house-property, but about which there has been hitherto almost unbroken silence. It has been an admirably patriotic reticence, the result of a clear perception of the duty of every good citizen to say no word that might seem adverse to the success of the War Loan. That success having been attained, people are beginning to speak more freely upon a difficulty that the new finance has brought into prominence. In judiciously guarded terms, several speakers at the conference in question referred to the probable effect upon house-property (and, *a fortiori*, on building) of “a loan bearing four and a half per cent. interest, with the security of the British Government behind it.” For the moment, there is not the

faintest desire to put anything in competition with the War Loan, which it is our plain duty to support to the utmost and in every possible way; but soon, soon, we are all hoping—there will come a time when the need for its augmentation will have become so great that, but when, nevertheless, its operation as a state investment may divert large sums that might otherwise have gone into the property market. It is too soon, therefore, to ponder the ways and means of protecting from undue hardship that very large portion of the community whose welfare depends in one way or another upon the state of the property market.

Those who are likely to suffer from the diminution of investments in building are not the wealthy property owners—who, indeed, would find their property holdings enhanced by the falling-off of competition, when, houses becoming scarcer, rents would be correspondingly more remunerative—but the tenant, the builder and his men, the builders’ men, and a long train of others who together make up the largest section of the industrial community. And the entire community must itself suffer, to some extent pecuniarily, but to a far greater extent physically and morally, by any marked set-back to house-building. One is not overlooking, of course, the obvious fact that, when a certain point has been reached, the scarcity of houses becomes in a slight measure self-correcting, because it makes “bricks-and-mortar” a more remunerative investment; but this tendency to supply its own check-action, and the penultimate merely oscillates within limits that are too small to be defined to have any material effect on the general question of keeping up a sufficient supply of houses to meet the needs of the community, not merely of the working classes, but of those who live in what the auctioneer calls “villa residences.” It is the people who occupy the next higher stratum of society on which the working-classes exist who would suffer most from a slackening of “building enterprise.” Many of them, who, as the good Bishop Thorold says, are “only able to keep just chin-high debt,” already pay the last shilling they can afford for rent, and a dearth of the houses they affect would result in their degradation, by their being driven to share their houses with lodgers or with poorer families, or to live in poorer neighbourhoods. In any case they must almost inevitably accept a standard of living, and this, from a national point of view, would be in the last degree deplorable. It is still those who permit themselves to sneer at the “shabby genteel,” but this aspiring class, with its faults of pretentiousness, has in it many of the best racial elements. Its very struggle “to keep up appearances” makes for strength of character as well

ment of manners and regard for the decencies
e, and its deterioration would be a national
ity.

* * * * *

at "things may be left to right themselves" is
ng that has lost its validity. When things need
g, we must strenuously endeavour to set them
This problem of the housing of the struggling
middle classes must be, and can be, more
ctorily solved than it would be by the crowding
or more families into the larger houses that are
forsaken by the wealthier people who in many
ces are drifting towards villadom, with whose
occupants they are thus, in a manner,
nging homes, with the vital or vitiating qualifica-
at the bigger houses are being fitted up as flats
tenements for the reception of the poorer tenants.
s thus that "things are righting themselves"
atically, the sooner the process is superseded by
e rational readjustment to the altered conditions,
tter it will be for the moral and material welfare
community that for the moment is seriously
ened with the multitude of interacting evils that
rom dear rents and scarcity of houses.

* * * * *

ough the expedients for dealing with these new
of the housing problem are merely temporary,
e therefore bound to be more or less unsatisfac-
ne phases themselves are likely to take a perma-
et, and means of dealing with them systemati-
ather than casually must be devised. In other
the architect must take thought as to the better
g and the more tasteful adornment of the
house, and the social or political economist must
is attention towards a complete readjustment
e increasingly complex factors of the hous-
problem. It would not be surprising to
that our antiquated systems of tenure,
he equally cumbersome and dilatory pro-
of transfer of house property, were cast into the
g-pot. Excessively easy transfer would, it is
et up serious dangers, chiefly of a gambling
ter; but the bullying and bearing and cornering
property market that would be pretty certain to
upon the undue relaxation of restrictions that are
sent too stringent could surely be prevented by
egislation based upon the experience gained in
ing the rigging of other markets during the war.
el confident that, in order to attract capital in the
on of the building industry, it is necessary to
y the heavy cost and the vexatious delays that at
t cause the capitalist to jib and hesitate about
up his money in estate property. Freedom of
age is of the essence of business, and if dealings
and houses could be made more mobile without
ling stability, a large measure of relief would
to an industry that must otherwise suffer acutely
ne competition of forms of investment that offer
facilities of exchange.

* * * * *

nce Hall and the Whitechapel Art Gallery are
t the topics of the week by reason of the
aneous announcements that the University
ment idea which the hall embodies is about to
nsplanted to Poplar, and that the memorial to
e Canon Barnett at the gallery is to be brought
pletion, except that the mural paintings which
form part of the scheme are to be left
hed until the return of their designer, Mr.
Garrett, who is serving with the Forces at the
Toynbee Hall is to remain an educational
, but its utility as a social beacon has been
that discounted by the rapid encroachment of
ss premises, and by the corresponding reces-
the sea of humanity that it was intended to
ate. It was a noble idea, that of bringing

University culture to the masses. As we once heard
James Russell Lowell say in the Hall, "Canon
Barnett, finding that he could not hope to lead all his
people up the steep slopes of Olympus, had induced
some of the gods of Olympus to come down to White-
chapel."

* * * * *

By the death of Mr. John Tavenor Perry at the
age of seventy-three, architecture loses a writer of
considerable industry and accomplishment. He had,
moreover, before his retirement in 1901, made his
mark professionally as the designer of the schools
and vestry to the Chapel Royal, Savoy; school build-
ings for the Dean and Chapter of Rochester; the
north wing and physiological schools of University
College, London; the Alhambra Theatre, London;
and the Hotel Cecil. His name stands first on the
register of Pugin students of the R.I.B.A., he having
won in 1865 the silver medal and forty pounds
offered for "the best selection of drawings and testi-
monials." In the year immediately preceding, he
was awarded the silver medal for drawings. His
student days were nearly contemporaneous with
those of Thomas Hardy, the novelist and poet, who
in 1862 won the silver medal "for the best essay on
any subject of architectural interest to be selected
by the competitor himself," and who was born two
years before Perry. Two or three years after win-
ning the essay prize, Hardy published his first
"Short Story." Concerning this period a curious
entry about him in "Who's Who" is, "Worked at
Gothic architecture under Sir A. Blomfield, A.R.A.,
and practised the writing of verse, 1862-67." Mr.
Tavenor Perry's writings showed a distinctly
archæological bent, but he was of catholic taste, his
publications including not only "The Mediæval
Antiquities of the County of Durham," and an
account of "The Priory of St. Martin, Dover," but
also "A Chronology of Mediæval and Renaissance
Architecture," while in his many articles contributed
to the professional press there was naturally a pre-
ponderance of architectural interest. His last con-
tribution to the "Architectural Review," on "The
Wooden Doors of Santa Sabina," was characteristic
of his plain and direct style, and of the dexterity
with which he was wont to blend in just proportions
architectural and archæological interests. His
happy knack of preserving this equilibrium confirms
the impression from other instances that a retired
architect makes the best type of antiquarian, or at
all events that, given the insight and ardour of a
Tavenor Perry, he is in the best possible position to
render valuable service to both departments.

* * * * *

A writer in a Canadian contemporary has made an
astonishing discovery. "Architects and engineers," he
says, "are just as human as contractors." This daring
proposition would be vehemently denied by each with
respect to the others. No contractor will yield a ready
assent to it as regards the architect or the engineer;
who, in turn, will be unanimous that the contractor is
certainly outside the pale; and this unexpectedly dis-
covers the one point of agreement between the archi-
tect and the engineer, each of whom, however, will put
the other in the same category as the contractor. To
what strange uses this attribution of humanity is put!
If an architect vexes the soul of the contractor, then
the architect is described by the contractor as
inhuman. On the other hand, the contractor who is
put on his defence is apt to affirm his humanity as an
excuse for his fault. In these circumstances one is
glad to place it on record, on the authority of the
Canadian investigator, that "architects and engineers
are just as human as contractors." No doubt he is
furnished with convincing proofs for the satisfaction
of a sceptical world.

HERE AND THERE.

"CAN the Fine Arts be made a Business?—You Bet they Can." That, obviously, comes from America. My eye lights upon it in the September number of "Architecture" (New York), at the beginning of the editorial comment. But having thus started in a thoroughly undignified, unprofessional, and delightfully interesting style, the writer is startled by the sight of such raciness, and hastens to adopt a more decorous editorial manner. I could wish he had gone on in the colloquial style. It suggested the unorthodox, and in the matter of architectural literature it is the unorthodox that is so attractive. How accustomed we are to the solemn observance of the architectural proprieties, conscious ever of the *dignity* of our Art. To that attitude of mind we are indebted for the stuff that most sessional papers are made of—careful disquisitions on very proper subjects, eminently instructive, and improving; papers, nevertheless, which would greatly benefit by the introduction of a little friskiness and local colour—a little "liveliness," as they say of the North Sea. But if the writer in "Architecture" has dropped the dry-stores conversational style he began with, there is matter further down in his editorial that makes up in part for the loss in manner. The question under discussion is a pertinent one—shall the architect dabble in advertisement?—the very question to which attention was drawn in this Journal last week, after the wicked Licentiate had sought publicity in the "small ad." column of the newspaper. The Council must be very strict about this. It must maintain at all costs the dignity of the profession. A Licentiate, or, for that matter, a Fellow, may be hard hit by the War, and find himself in an empty office with no work in sight, but he must eschew advertisement, even though it might help him to keep body and soul together; for paramount in his epitaph shall be the stirring words: "He died penniless, but observed By-law 24!" Yet, what a small delinquency is this advertising Licentiate's compared with the activities of the up-to-date firm of architects in the States who, having an Advertising Department, a Business Getting Department, and, possibly, a Designing Department, send out the following letter to associations of manufacturers:—

Dear Sir:

We are mailing you, under separate cover, a prospectus showing book of plans which we expect to issue in the near future. It has occurred to us that we might, to our mutual advantage, incorporate in the text of this publication an article, written from the point of view of an architect, showing the advantage of the use of your material. This article would appear as a part of the text of the book, and would in no way be connected with or refer to the advertising pages. Our thought was to publish such an article as you should dictate—this without cost to your manufacturers. We propose to publish this book and guarantee a circulation of 10,000 or more within one year.

By referring to our contract, copy of which is enclosed, you will see that such publicity will be very valuable to the association, and if incorporated in our advertising pages would be at the cost of perhaps several hundred dollars. We believe we can afford to carry the article as above outlined, if you will place an order with us for a quantity of these books.

Yours very truly.

This is the business element (not to say the illicit commission element) in architecture with a ven-

geance. It is the sort of thing which, a writer in "Architecture" says, would be almost if it were not so gross. Even in a land where freak is common it oversteps the mark. Still, in the bribery underlying it was the corruption of years ago, when one architect contributed that after he had generously contributed to the building fund in order to compete, he was that opinion was in favour of his design, but the committee wondered, nevertheless, whether he did not care to contribute still more generously to the building fund; and as he declined that suggestion the work went to another, more generous, competitor. But though America has its architects who are business men, we may rest assured that the profession there maintains as high a position as ours does here. America, too, rejoices in the no session of many things that are our peculiar tags—like "ancient lights"—and architects in the States, I believe, have no *Ebby v. McGowan*. In which respect the American architect is more fortunate. If only his English confrère were similarly possessed of his paper property, in these hard times what a profitable little business he might make of second-hand plans! But this cannot be, and dusty rolls must remain on top of the cabinet waiting dustier still.

* * * *

Some time ago in these columns I referred to the impressive effect of great city buildings at night. The magnificent Victoria Tower of the House of Parliament in particular. That was an effect of exteriors, but the same mysterious grandeur meets equally the interiors of great buildings in the night watches. Monks of old, praying in abbey churches, must especially have been struck with this, but the impression is equally possible of the present day, and I see a very suggestive record of it in a new book published by the Bishop of Durham. "Several years ago," says Dr. Moule, "I conducted one Saturday night, late in the year, a tour of Westminster Abbey. A friend, familiar with the marvellous church, was my guide. With a lantern in his hand he ushered me in by a private door, and we made our exploration. Aisle, nave, choir, chapels, all were traversed through the shadows, while the narrow light just made our way, and threw gleaming hints of bulbous shape upon the immense world of structure around us and above us. An almost oppression of mystery occupied my senses. I had often seen the Abbey by daylight. But it now seemed something other than the undiscovered wilderness of uncomprehended and majestic but bewildering form—half seen, half hidden, by the struggling lamp. The pillars soared into a dark void. The arches seemed to meet I saw not what. Relation was cast in confusion which seemed to defy the mind's effort to construct. . . . The morning came, radiant with clear autumnal sun. The Sunday's matins began, and I stood in a stall within the glorious choir. The mysteries of the night were now the miracle of splendours of the day. The majesty of the passing temple shone before me, all the majestic for the order, the relation, the structural adjustment, the reason, the mind, that looked through my mind through it all. Walls, columns, arches responded to each other, and dignified each other till mass was etherealised into grace; all crowded and unified by the marvellous roof which had been so impenetrably hidden by night, hanging so far above the poor lantern's reach. Was it a parable? It was a parable set as a soul-song, an anthem, though the music came only through the eyes."

UBIC



DETAILS OF CRAFTSMANSHIP. XXXVI.—CARVED PINE MEDALLION (ENGLISH, EARLY EIGHTEENTH CENTURY) IN THE VICTORIA AND ALBERT MUSEUM, SOUTH KENSINGTON.

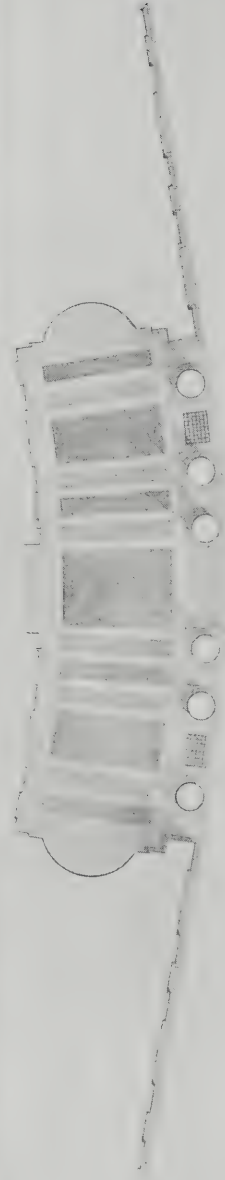
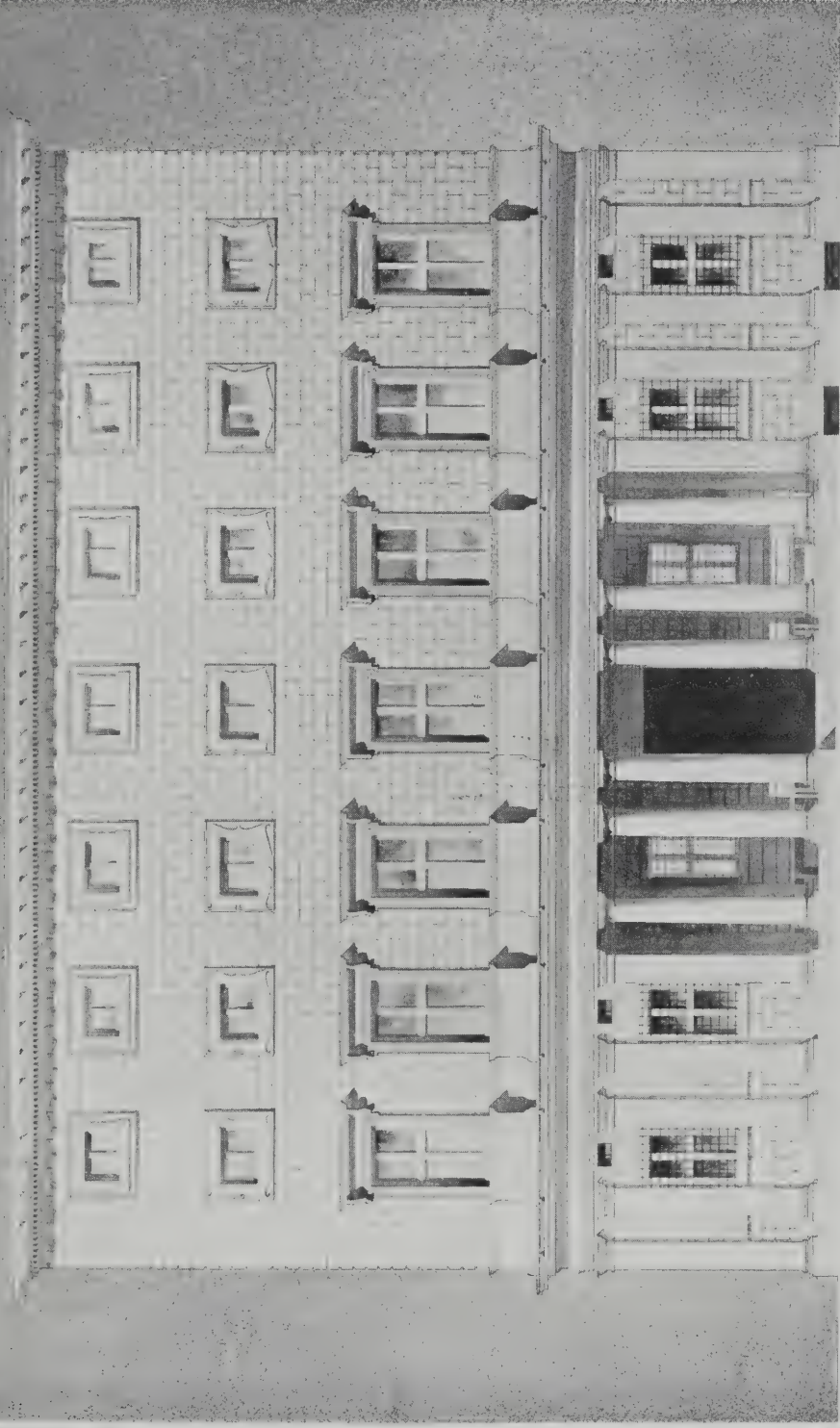
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SMALL HOUSES OF THE LATE GEORGIAN PERIOD (SERIES II.). V.—TOLL HOUSE, HENLEY.

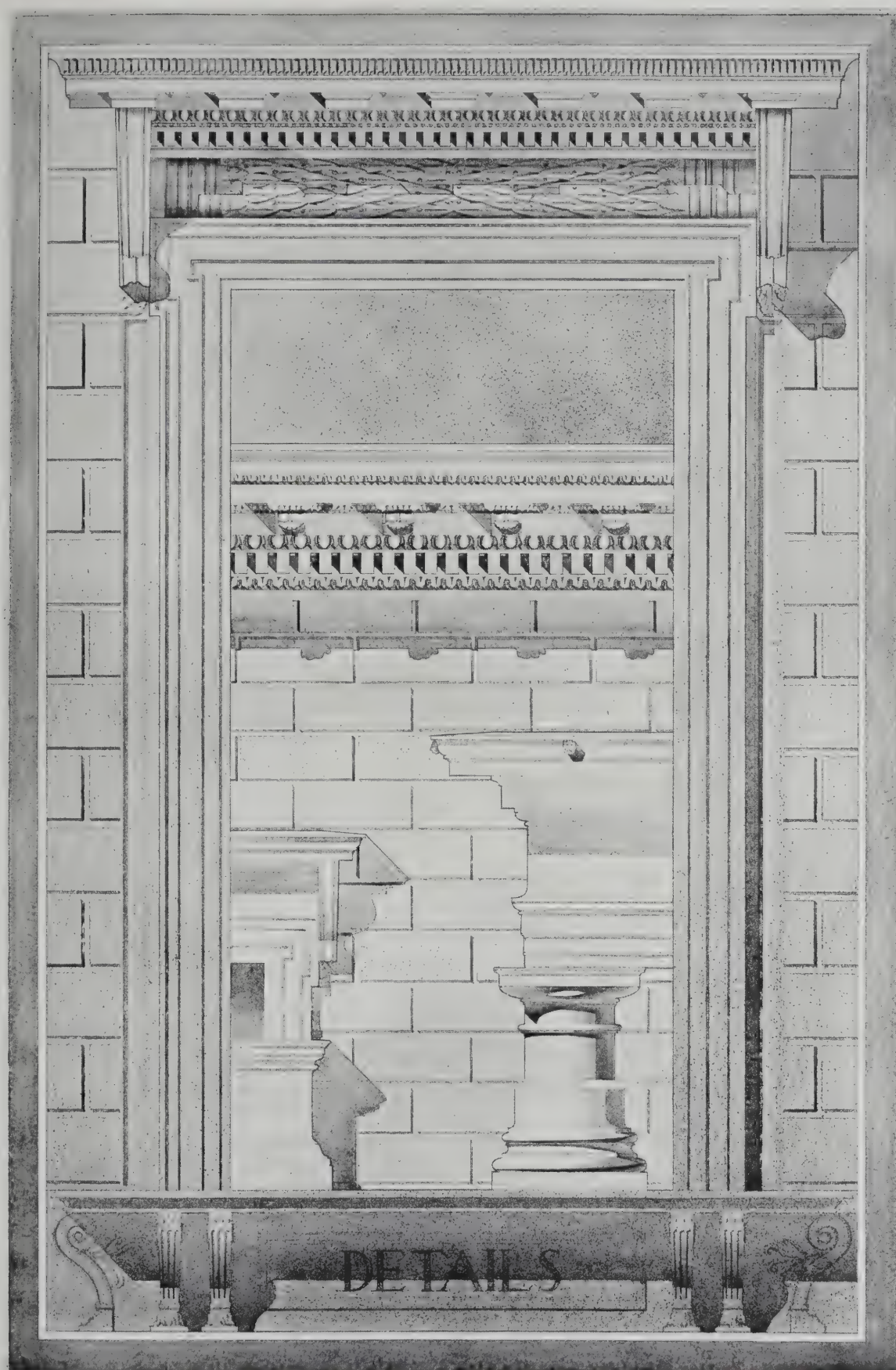
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PALAZZO MASSIMI ALLE COLONNE ROME



STUDENTS' DRAWINGS (SERIES II.). III.—MASSIMI PALACE, ROME. BALDASSARE PERUZZI, ARCHITECT.
MEASURED AND DRAWN BY R. S. DIXON.

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STUDENTS' DRAWINGS (SERIES II.). IV.—MASSIMI PALACE, ROME: DETAILS.

MEASURED AND DRAWN BY R. S. DIXON.

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Photo: Cyril Ellis.

CURRENT ARCHITECTURE (SERIES II.). XLVI.—CATHOLIC CHURCH, NORTHFLEET, KENT: TOWER AT WEST END.

G. GILBERT SCOTT, F.R.I.B.A., ARCHITECT.

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Photo: Cyril Ell's.

CURRENT ARCHITECTURE (SERIES II.). XLVII.—CATHOLIC CHURCH, NORTHFLEET, KENT: VIEW FROM NORTH AISLE LOOKING INTO SANCTUARY.

G. GILBERT SCOTT, F.R.I.B.A., ARCHITECT.

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THE PLATES.

A Carved Medallion.

A medallion calls for no description. Its elegance is obvious. Particularly skilful is the placing of Britannia's head within the wreath. A detail as this might very fittingly be used on a medal to a sailor.

Toll House, Henley.

A little building, one of a pair on each side of a road that leads out from Henley to Marlow, is the best examples of its kind. It was evidently designed by an architect of ability—it suggests the work of an architect, at least, the influence of Sir William Morris. The cornice is very rich and finely executed.

Massimi Palace, Rome.

The particulars of this building are given in the next page. The drawings we reproduce are by Mr. R. S. Dixon, of the Liverpool School of Architecture.

Grille, Corn Exchange, Bank, New York. This drawing we reproduce from the September number of "Architecture" (New York). The illustration on page 155 shows the complete façade.

New Catholic Church, Northfleet.

A new Catholic Church at Northfleet occupies a commanding site overlooking the Thames, the tower a landmark for miles around. The fabric is built of red brick, and considerable use has been made of reinforced concrete—for roofs and for walls. The walls internally are plastered with white wash. The sanctuary roof is finished in black and white on a red and grey ground, the nave and aisle roofs, gallery front, and other woodwork being finished in two shades of grey. Accommodation is provided for 380 worshippers. The cost is £6,648. Mr. G. Gilbert Scott, F.R.I.B.A., of London, was the architect.

CORRESPONDENCE.

The Air Raid.

To the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.

SIRS,—Without writing to detract in any way from the "excellent service" rendered by the Special Constables on the occasion of the air raid, to which you refer in your issue for September 15, may I point out that if it was in the direction of "immediately extinguishing all lights," as you state, that such action was in direct opposition to orders.

It is part of a Special's duty to report on any too brilliant lights which may be observed in buildings, but for any person to interfere in any way with street lighting is contrary to the order published by the Commissioner of the Police.

As this is an important matter, I hope you will give publicity to this letter.

S.C. No. 584, E. Division.

[It may have been contrary to order, but, in certain districts, it was certainly done, and with such promptitude that we felt safe in crediting Special Constables with the service.—EDS. A. AND B.J.]

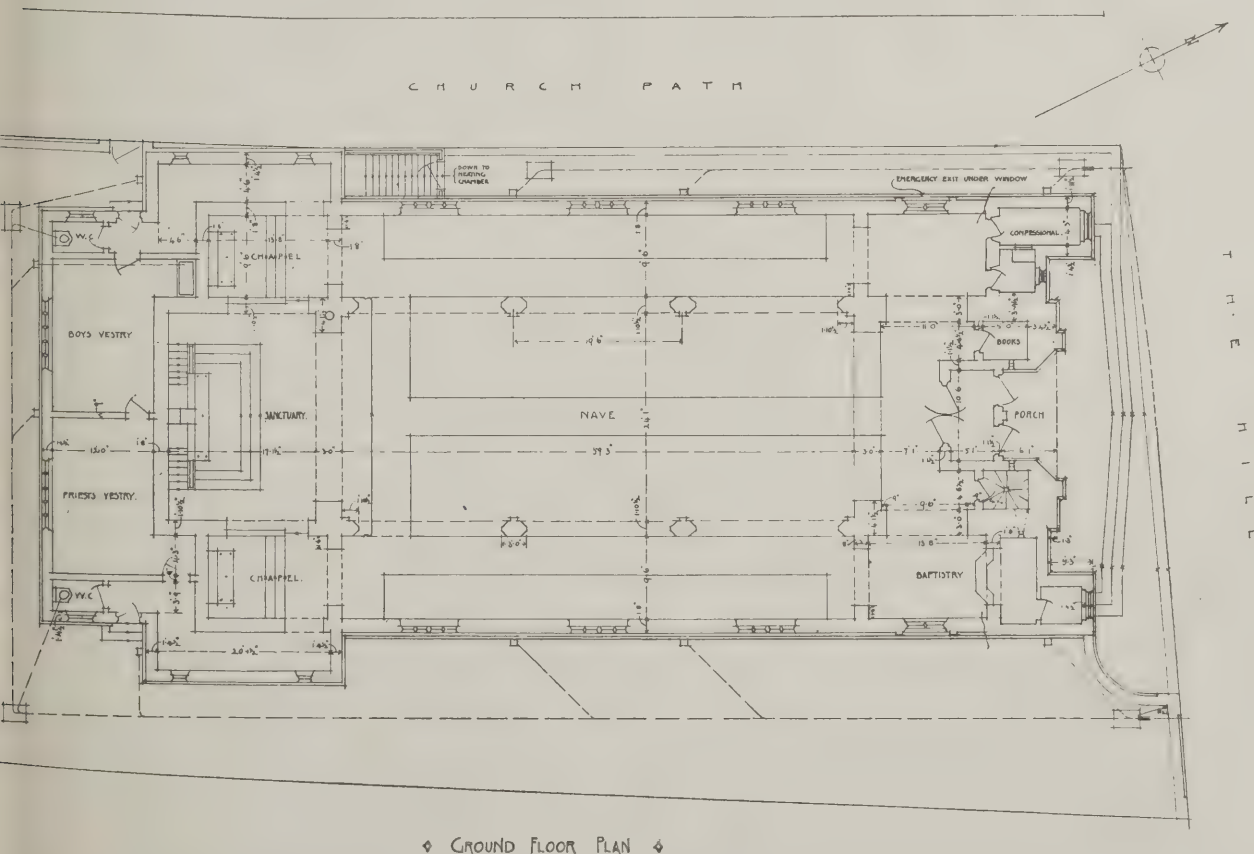
The Largest Reinforced Concrete Hotel.

To the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.

SIRS,—Although I am several thousand miles from London, I nevertheless managed to run across a copy of your issue for August 18, and read therein your description of the construction of the Hotel Traymore, the largest reinforced concrete hotel in the world. Your information, however, neglects to state that the reinforced work was designed by The Trussed Concrete Steel Company on the Kahn system of reinforcement.

Detroit, Mich., U.S.A.

MORITZ KAHN.



◇ GROUND FLOOR PLAN ◇

CATHOLIC CHURCH, NORTHFLEET, KENT. G. GILBERT SCOTT, F.R.I.B.A., ARCHITECT.

AN ARCHITECT'S IMPRESSIONS OF CORNWALL.

CORNWALL is allied to the sea. She pays tribute in winter to the gigantic waters that sweep her coasts. She is at times enveloped in clouds of rain and sea mists which have swept unchecked for thousands of miles, and she is subjected to the full fury of hurricanes. Yet in summer, for all who are sun-worshippers, the climate is equable, the vegetation almost tropical in abundance. Cornwall ranks high as an agricultural county; large numbers of sheep and cattle are bred; in most parts the soil is rich and the crops are plentiful. But it is from the mines that most of the wealth of the county is obtained. Radium, tin, copper, lead, iron, bismuth, and arsenic form the mineral products. The chief mining interest centres in the Camborne and Redruth districts, while the china clay industry is based on St. Austell.

It is a county full of prehistoric remains. There are the Cromlechs of Lanyon, Mulgra, and Zennor, the rough monoliths found in all parts, the circles, such as the Hurlers near Liskeard, and the avenues of stones used as accessories to ancient religious ceremonies. Then in the sequence of antique remains there are the ruined mediæval castles of Restormel, Tintagel, and Launceston.

In Gothic churches the county is rich; the very nature of the granite construction has rendered the buildings practically indestructible, and these churches have passed through the centuries to our own time unspoiled. I have studied the square towers of such churches as those at Saltash, Landedulph, and Botus Fleming; the beautiful churches at Callington, Stoke Climsland, Launceston, Lelant, and St. Ives, as well as the traceried spire of Lostwithiel which Street designated "the glory of Cornwall." I have enjoyed the Victorian Cathedral at Truro, the triumph of Pearson's genius, which is so happy in its continental setting, and forcibly reminiscent of Coutances.

Yet it is the Classic sentiment of Cornwall which most inspires. One hears it said on every side that, west of Exeter there is a dearth of Classic traditional architecture, but investigation disproves this careless theory, and a journey along the turnpike roads is an education in itself. How one delights in encountering the slate-hung toll houses of the eighteenth century, the simple proportions of the humble cottage, and the well-kept farms, the spaciousness of the towns and the prim reticence of the granite town houses. The Classic tradition in Cornwall is not a mild repetition of the matured work at Bath or Bristol; it was inspired by the architectural aspirations of the latter cities, but the local conditions as well as the temperament of the people effected a change in the character. For this reason and no other, the Classic architecture of Cornwall assumes a definite style; it is not amorphous.

In the architecture of the early eighteenth century the change from loose Classic becomes apparent; the giants had penetrated the frontiers and Vanbrugh had erected the Ordnance works at Devonport for King William III., and Gibbs had built Anthony House. As if by magic a host of unknown minor architects and stonemasons arose to meet the requirements of wealthy landowners and small squires, and in the short space of a quarter of a century the Classic spirit was firmly established. Fine houses arose in such towns as Saltash, Liskeard, Callington, Bodmin, and Truro; even distant Penzance received its quota of Georgian architecture, and during the second half of the eighteenth century the number of palatial country seats was considerably augmented. Mention must be made of Moditonham, Tehidy, Glynn near Bodmin, Whiteford

near Callington, Tregenna at St. Ives, and many others. In most cases architects were not directly employed, although the general plans may have been obtained from London or Bath. The local masons dealt with the granite work in a direct manner, and even in those cases where the detail is according to precedent, the resulting effect is convincing.

At the close of the eighteenth century building activity was in full swing and it continued until when economical depression set in. About 1790 turnpike roads were improved throughout the county. Falmouth became the chief seaport for sailing packets to America, and from this period towns assumed a more pretentious civic dignity while the erection of public buildings marked the zenith of the industrial epoch. In the latter category might be included the spacious coaching inns, such as the Royal at Falmouth, the Western Hotel at Penzance, Webb's Hotel at Liskeard, the Royal at Truro, and the London Inn at Redruth. Such public buildings as the market halls of Bodmin, Austell, Truro, Redruth, and Penzance are of first rank, both as regards excellence of design and appropriateness. I have long remarked on the simple railway stations between Menheniot and Truro, which are survivals of Brunel's period, and regret that modern railway practice countenances the adoption of a suburban type for new stations.

No visitor to Cornwall who delights in a study of buildings and people can fail to carry away a changing picture of the mind, some incident of a morning in Truro or Redruth, some recollection of diminutive coaches which bring the farmers from outlying districts to the towns, curious vehicles of the diligence type driven by rubicund Jehus, who maintain all the racy wit of the West Country. As I pen these impressions of happy experience I have before me an indelible and delightful picture of snug slated cottages, of sash-windowed farms with vertical slate hanging, generous eaves and massive chimneys. Such a contrast to the brick architecture of the Home Counties is refreshing, and these days when the evil works of the speculative builder spoil the landscape it is pleasant to dwell upon a picture of a part of Old England, which in spite of material progress, retains so much to feed the imagination.

PERUZZI AND THE MASSIMI PALACE

OF the several palaces which Peruzzi built in Rome, the Massimi is by far the greatest. It was commenced in 1535, more than twenty years after his earliest palace—the Farnesina—had been completed. Into this great building Peruzzi transmuted the swarming ideas and experience of the intervening crowded years—years that enriched Rome, Siena, Bologna, and other cities with the fruits of his genius.

The palace was built for the two brothers Massimo. The conditions governing its erection were singular. For reasons of economy, Peruzzi had to make what he could of the ruins on a site facing a great thoroughfare of the street (now the Corso Vittorio Emanuele) running into further irregularities at the rear. He was required to plan two separate residences in one singularly large palace, and this palace was to be modelled after that of Fabius Maximus at Pompeii, an old Roman adversary of Hannibal having been an ancestor of his clients' family; furthermore their Italian surname, *Massimi del Portico*, later changed to *Massimi delle Colonne*, was required to be expressed on the façade. These conditions the architect met with remarkable success, gaining from them some striking effect. Take, for example

gement of the *colonne*. To couple columns is rarely not a practice to be recommended; but Peruzzi, by placing both pairs under an unbroken solid cornice, rises through three storeys, and by bringing their capitals exactly in line with the extremity of the columns, makes their doubled strength seem a necessity at the same time makes them hold his composition together.

The main façade, including the cornice, is finished in stucco, excepting the ground floor and the window surrounds. The rustication varies from 18 in. by 10½ in. to 2 ft. by 1 ft. 1½ in.; the pilasters on the first storey being 1½ in. by ¾ in. deep, those above 1½ in. by ⅝ in. deep. The entrance is designed with the utmost care. The pilasters on the wall have an entasis, and the main door takes the curve of the façade (which is of approximately

been a profound thinker and betrays his leading instinct—his initiatory ideas as to the lines on which future domestic life would settle down.

Besides being "the most elegant painter among the architects and the most ingenious architect among the painters" Baldassare Peruzzi gave himself to several minor activities that add to our interest in him. Like Leonardo he became a celebrated designer of pageants and made the coronation of Clement VII. the most gorgeous fête Renaissance Rome ever witnessed. Long before this he had undertaken the staging of Cardinal Bibiena's "Calandra," played before Leo X. It was the first drama written in Italian, and Peruzzi, as if its modernity were breath to his nostrils, threw his whole heart into devising a modern setting for it. He painted realistic contemporary scenes and, further, worked out the mechanism for shifting them, thus



THE MASSIMI PALACE, ROME. PERUZZI, ARCHITECT.

radius). In order not to break the ground floor cornice the caps of the columns are given a projection greater than that of the pilasters.

As regards the plan it may be noted that from the courtyard (which, though small, is one of the finest in Rome) a staircase leads up to the charming loggia on the *piano nobile* under the gold and reds of a richly decorated ceiling; and from here one passes direct into the *salon*, with its magnificent frieze.

Through the passage leading to the *cortile* so deftly blended with the entrance loggia, and all unevenness would have interfered with the classical treatment so subtly taken up in the thickness of the walls; the maximum of façade windows and the height of the upper storeys diminished to present-day usage; the sunlight everywhere; the Massimi palace is the instance of that modern balance demanded by the architectural requirement and comfort for the present. Refinement of details is everywhere apparent. We claim Peruzzi a great artist; but his premonition of the importance of planning that was not really to be established till many years later proclaims him also to have

giving us the earliest example of movable stage scenery. This really amounted to an invention and one we have never since learned to do without. Scene-painting, inaugurated by an artist of such high rank as Peruzzi, soon attracted the most talented men in Rome; just as, years later, after the Italians had introduced the theatre into France, it attracted the talent of Watteau and Boucher. But Peruzzi as initiator of the modern theatre had carried his work farther than merely scene painting; he had designed stage costumes and furniture as well; also, like Raphael and Mantegna, who had been associated with him in the diversion, he made cartoons for the tapestries that rich Italians, following Pope Leo's lead, were having woven in Flanders. Soon after completing the Massimi palace he died, worn out, it would seem, by the mere struggle for existence, still comparatively young—fifty-five or six—leaving behind him an output staggering in quantity, variety, and excellence—and brimming with the pathos of having been inadequate to keep its author from poverty and misery. *Virtus laudatur et alget.*

ENQUIRIES ANSWERED.

Valuation for Probate.

TRUSTEE writes: "A retired builder had an estate which was composed of dwelling-houses. He was a man who immediately paid his debts, and there is no difficulty in settling the estate. His trustee has decided to prove his will without the aid of a solicitor, and it only remains to value the property for probate. The trustee is quite capable of doing this, but, to avoid dispute, he thought it wiser to ask a surveyor to do it for him. This gentleman is an F.S.I., but not a licensed valuer. Would any objection be made to his valuation in consequence of this?"

—Up to a quite recent date, any person could make a valuation for the purposes of probate (whether he was licensed or not), and in fact solicitors and bankers often acted in this capacity; but there is now a large staff of Government valuation officers who deal with the Death Duties, and they will no doubt make out the claim for the Government. Someone will be required to meet them on your behalf, and I see no reason why the surveyor you mention should not do this work. F. S. I.

Removal of Limewhite from Brickwork.

B. W. B. (Farnham) writes: "Can you tell me of a good and cheap means of getting old limewhite off brickwork, as through an alteration what was an internal wall of an outbuilding has now become an external wall?"

—It is practically impossible completely to remove old limewhite from porous brickwork, as, owing to the suction, it is not merely a question of freeing the surface. If the limewhiting is thick and shelly it may possibly scale off by coating with strong size, but the facings are sure to be discolored beneath. A weak solution of hydrochloric acid, followed by scrubbing with warm water, may improve matters, and touching up with coloured distemper would probably make the surface fairly satisfactory from a distance. G.

Arrangement of School Chapel for Two Sexes.

L. H. S. (Wimbledon) writes: "What arrangement is necessary in a school chapel to seat 100 girls and 150 boys? Can each sex be placed on either side of a central gangway, or is it advisable to place the girls in a transept?"

—The arrangement must depend on the standard of discipline and conduct maintained in the school. The traditional chapel seating, in which the occupants face each other across the gangway, seems undesirable, but there should be no grave objection to division by a central gangway, with all seats facing in the same direction. A transept is also a possible solution, or a Y-shaped plan—girls and boys in the two arms, chancel in the trunk, as in the chapel at the King's Sanatorium and in an interesting design for a suburban church made some years ago by Messrs. Nicholson and Corlette. G.

Damp Penetrating Wall.

"Civil" (Ealing) writes: "I should be obliged if you would give me some suggestions as to the best way to deal with damp penetrating the upper walls of a house. The house stands in an exposed position and gets the full force of the rain-bearing winds. The joints were raked and pointed in cement and the bricks were treated with two coats of a stone petrifying fluid, but after standing a year or so the

wet of last winter was too much for it, and it now comes through as badly as ever. The original lime mortar in the joints is particularly good and hard—indeed it was difficult to rake it, so that the whole trouble would seem to lie with the bricks, which must be very porous. I should be glad to know of the most inexpensive way to deal with the matter, as a considerable amount has already been spent upon it, and the area affected is rather extensive; but I want to make a sure job of it."

—Cement rendering or roughcast (preferably with the admixture of one of the modern waterproofing ingredients) should make a sure job, but if the bricks are very porous, two coats of petrifying solution was probably insufficient, and the work may be secured at less cost by the application of further coats—as many as the surface will absorb. G.

Creepers and the Rights of Adjoining Owners.

E. J. D. (Stafford) writes: "Two years ago I built two villas on a plot of ground. Twelve months later the owner of the adjoining land was allowed to build two other cottages, projecting forward considerably and abutting directly on my forecourt and side entrance. I have recently planted some self-clinging Virginia creepers to cover the ugly wall of this adjoining property. The owner has now requested me to remove the creepers, complaining that they will eat away the lime from his wall and cause deterioration. (1) Can he force me to remove the creepers? (2) If the creepers are allowed to grow, will they really cause damage to the wall, and what liability should I have for same? (3) When trees in my garden overhang a neighbour's garden, can I be compelled to lop off the overhanging branches?"

—(1) The adjoining owner is entitled to remove the creepers from his premises if he so wishes. (2) Virginian creeper—especially the small self-clinging variety (*Veitchii*)—does no damage to brickwork. Had you planted ivy it would have been another matter. You would incur practically no liability if you gave your neighbour an undertaking to make good any damage your creepers did to his property. Perhaps you could place a wooden lattice against his wall without trespassing beyond his boundary. (3) Yes, a neighbour's overhanging trees may be cut off so far as they pass the boundary line, but great care must be taken not to cut off too much. The owner of the trees, however, cannot be compelled to cut them. F. S. I.

Books on Smoky Chimneys, Steelwork and Reinforced Concrete, and Churches and Schools.

(1) "Smoky" writes: "Will you kindly let me know if any book has been written on smoky chimneys? I believe an article on the subject appeared in your pages some time ago. Can you tell me the date of the issue?"

(2) H. (Sheffield) writes: "Kindly recommend a book or books on a course of instruction on the design of structural steelwork and reinforced concrete—something suitable to one who is not a very good mathematician."

(3) W. (Belfast) writes: "I want a low-priced book on modern church architecture, giving details of planning, fittings, etc., and methods of heating; also an up-to-date book on a school planning (chiefly elementary) and equipment—other than Clay's."

(1) We do not know of any book devoted exclusively to the subject of smoky

chimneys. The article you refer to appeared in our issue for January 15.

(2) "Structural Iron and Steel," by Noble Twelvetrees (price 6s. net, postage 4d.), and "Reinforced Concrete: Theory and Practice," by Frederick Rings (price 7s. 6d. net, postage 4d.); both obtainable from Messrs. B. T. Batsford, Ltd., High Holborn, London.

(3) "English Ecclesiastical Architecture," published by Technical Journal Ltd., 27-29, Tothill Street, Westminster (price 10s. 6d. post free), will probably serve your purpose. It comprises a number of plates showing church architecture, with prefatory articles on "The Design and Arrangement of Churches," by Sir Charles Nicholson, M.A., F.R.I.B.A., and on "The Planning, Construction, and Equipment of Modern Churches," by Mr. C. Spooner, F.R.I.B.A. In addition are Maskell's "Hints on Building a Church" (price 5s.) and Crouch Butler's "Churches, Mission Halls, and Schools for Nonconformists" (price 4s. 6d.); obtainable from Messrs. B. T. Batsford. We do not know of a suitable book on schools other than Clay's, the price of which is 25s.

A JAPANESE ON WESTERN ARCHITECTURE IN JAPAN

In the September issue of the "Architectural Magazine," just to hand, there is an article by Mr. H. Kuroda on the development of Western styles of architecture in Japan. As this is of interest to English readers, we give the article in full below:—

If the tendency of architecture in Japan may be taken as an indication of the progress going on throughout Japan, the adoption of Western styles of architecture is a very fast progress. In any case Tokyo is the best place to make a study of the development of Western architecture in Japan, since the capital has usually taken the lead in such respects. The oldest foreign buildings in Tokyo are those erected by the Legations at Shinagawa in 1862; they were built specially as residences for foreigners they cannot be taken as representative of Western architecture in Japan. This is further emphasised by the fact that the Japanese never attempt to imitate them.

The construction of buildings in Western style did not commence until after the Meiji Restoration. One of the first Western buildings was the First Bank, which was erected in 1872; and this was followed by the erection of the new House of Representatives building in 1875, since burnt down and replaced by the Home Affairs Departmental building, which was constructed in 1875. These were designed by Japanese architects and not by Japanese, and may, therefore, be taken as typical of the first period of Western architecture in Japan, covering the first twenty years of the Meiji period.

Other buildings were erected at about the same time under the direction of foreign experts, one of which was the Yamanote-bashi station, completed in 1871. Other buildings in foreign style arose in the Ginza, which is the main thoroughfare of Tokyo. These were after planned by an architect named Mr. Wordsworth, who also constructed the British Embassy in 1873. The Russian Embassy was designed by a Mr. Medley, was completed in 1874, and the German Embassy, which was erected in 1878, and the Naval Academy in 1880, and the building for the Tokyo Foreign Office in 1879 and the Peers' Palace in 1880.

the architect for the latter being Dr. Conder. Most of the foreign architects engaged to design foreign buildings were not really architects, being for the most part engineers who turned to the planning of buildings, with the exception of Dr. Conder and a French architect named Boinville. Dr. Conder came to Japan in 1875 as a teacher at the Imperial University, which position he held until 1893. The Imperial Museum and the Navy Departmental building are among the most representative of his work. He has educated many Japanese architects, and is now an emeritus professor of the Imperial University.

During this first period of western architecture in Japan there were very few if any experts in the art of constructing buildings. But during the second period, which lasted from about 1882 to 1905, the pupils of Dr. Conder began to work and had a decided effect on the architecture. The styles most popular with them were the Gothic and the Renaissance, being the types they had studied at home. There was no attempt at originality; the young men simply following the designs they had been taught how to copy. Many of these young architects, however, developed later into authorities on Japanese architecture. Some of them, such as Drs. Tatsuno, Katayama, and others, are among the most respected of our architects to-day, and especially to those who know Japanese architecture owes much of its progress. The most representative buildings of the second period are the Fifteenth National Hotel designed by Dr. Watanabe, the Department of Agriculture and Commerce, built in 1891 by Dr. Nunami, the Tokyo Prefectural Office planned by Dr. Tsumaki in 1893. The Tokyo Commercial College and the Bank of Japan were after plans by Dr. Tatsuno in

the third period. The materials used varied a good deal. In the case of the Imperial Hotel is of wood on the outside, with some portions of brick, the architecture being in the Renaissance style. The Department of Agriculture and Commerce is the same style and finish, in three storeys, but is covered with plaster. The Tokyo Prefectural building is of brick faced with stone. The Bank of Japan, one of the most representative buildings in Tokyo, is all of granite, and is in the Italian Renaissance style. The Engineering College is in Gothic style and constructed of brick with grey stone facings.

The third period of foreign architecture in Japan may be said to extend from the year 1905 to the year 1905. During this period there was a marked development of architecture among native architects, with a tendency toward independence and originality. Among the most typical buildings of this period are the Mitsui Bank, which was designed by Dr. Yokokawa in 1902 and the Crown Prince's Palace at Tokyo designed by Dr. Katayama in 1907. The Bank building is of yellow brick on a steel frame, the first steel frame in Japan, Dr. Yokokawa being one of the first Japanese architects to go abroad and make a study of the use of steel in architecture. It is in the Renaissance style. The Akasaka Commercial College is in the style of Louis XIV. with a stone frame, filled with brick, and faced with stone. The design was taken from the Palace of Versailles.

From the year 1905 onwards a new period may be said to have begun in the use of Western architecture. At this time our native architects began to show some degree of self-conscious-

ness. They had by this time taken in and digested the achievements of the great architects of the world, and felt a freedom that enabled them to go on without restraint to produce something of their own. They were no longer beholden to models. The development of resources for building materials also had something to do with the improvement in architectural designs, especially the employment of reinforced concrete in wall construction. Most of the new buildings of this period are steel frames filled with reinforced concrete. There seems to be no special thought given to new styles or designs. Styles of architecture in this period are marked by Austrian and German influence mixed with Japanese ideas. The new gate in front of the Imperial University, which was completed in 1912, marks this period of conflicting ideals. It is a mixture of iron, stone, and brick: foreign materials worked up into Japanese style, the design being by a Japanese architect named Yamaguchi, the suggestion coming from Baron Hamao, then president of the institution. It will long stand as a monument to those who made desperate efforts to depart from established models. The Metropolitan Police Bureau, designed by Drs. Tatsuno and Fukuoka in 1911, as well as the Red Cross Society building by

Dr. Tsumaki in 1912, not to mention the beautiful Mitsui building by Dr. Yokokawa in 1911, are all representative of the fourth period of western architecture in Japan.

The Metropolitan Police Bureau is a modified Renaissance style, revealing many native ideas. It is 270 by 258 feet, with a central dome and tower rising one hundred feet. The Red Cross Society's building near Shiba Park is in German Renaissance style, of brown brick faced with stone, the frame being steel. The new Mitsui building is also in Renaissance style with steel frame, but the design shows American influence. It is a six-storeyed office building, the first one after the American manner.

It will be inferred from what has been said that the Meiji era was one of imitation and study of western architecture; while the Taisho era promises to be a period of originality and remarkable development, combining the best in various western countries with designs of purely Japanese evolution. Every year sees large new buildings being erected in Tokyo for business purposes, their forests of steel, with men like mites climbing over them, reminding one of what is constantly seen in any progressive Western city.



CORN EXCHANGE BANK, NEW YORK. H. T. LINDBERG, ARCHITECT.

(See page 151.)

COMPETITIONS.

New Premises for Plymouth Co-operative and Industrial Society.

The assessor in this competition, Mr. Paul Waterhouse, M.A. Oxon., F.R.I.B.A., has issued the following award: "As the assessor appointed to adjudicate on this competition, I hereby award that, subject to and in accordance with the conditions embodied in the Instructions to Architects and in the Award, Leatherhead). The author of design No. 54 be entrusted with the carrying out of the work (Messrs. Halliday and Paterson, and C. Gustave Agate, 14, John Dalton Street, Manchester). The author of design No. 57 be awarded the premium of £75 (Mr. H. R. Gardner, Reigate Road, Leatherhead). The author of design No. 10 be awarded the premium of £50 (Mr. H. S. East, 14, South Square, Gray's Inn, W.C.). The author of design No. 27 be awarded the premium of £25 (Messrs. F. Bethell and C. M. Swannell, 3, Broad Street Buildings, Liverpool Street, London, E.C.).

"(Sgd.) PAUL WATERHOUSE."

Town Planning, York.

The main lines of the suggestions made to the promoters of this competition by the Society of Architects are, according to the Society's journal, (a) That the deposit paid should be refunded to architects who decide not to compete, and that Ordnance maps, etc., should be supplied to competitors free of charge. (b) That the name of the assessor or assessors should be made known at once, and that the jury system of assessing should be adopted. (c) That the premiums should be increased, and the successful competitor be employed on the present and future schemes at adequate fees, and that other competitors whose ideas are utilised should be properly remunerated. Although the Council have not barred the competition, they anticipate that the views they have expressed and the action they have taken will commend themselves to the members. The following note further explains the position: "As we go to press we heard that the deposit will be refunded, an assessor appointed at an early date, and Clause 14 amended by the omission of the author's *nom de plume* on the drawings. So far the premiums have not been increased, but the Society's further communication on this point is still under consideration."

Statue of Dr. Croke, Dublin.

A prize of £25 is offered by the Central Council of the Gaelic Athletic Association, Ltd., for the best design for a statue of the late Dr. Croke. The statue is to be of bronze, and the base and pedestal of Irish limestone or Irish granite. For particulars, application should be made to Mr. L. J. O'Toole, secretary, Croke Park, Jones's Road, Dublin.

NOVEMBER 30. — TOWN - PLANNING SCHEME, YORK. — The Town-Planning Committee of York Corporation invite competitive schemes under the Housing and Town Planning Act, 1909, in connection with certain areas within and without the city of York. Premiums of £100, £50, and £25 are "to be awarded by competent assessors." Schemes are to be sent in by November 30, 1915. Conditions (£2 2s. returnable) from F. W. Spurr, City Engineer, Guildhall, York.

[With respect to this competition, see the note above.]

"DRY ROT."

Mr. Carleton Rea, the secretary of the British Mycological Society, which recently held at Swansea its annual meeting, gave an interesting paper on the subject of "Dry Rot."

He showed how the fungus developed in timber kept in damp places, and said that only sound, well-seasoned timber should be used in the construction of buildings. It often happened that the spores of mycelium were dormant in wood, and could not be detected at the outset, and it was advisable to thoroughly saturate timber with creosote under pressure, and the under portions of the floors and ceilings should be well ventilated by a strong current of air. No floors or wainscots should be inserted below the level of the damp-course in the walls, and all rooms should be kept thoroughly dry and well ventilated. Frequently dry rot appeared in new buildings to such an extent that not only the joists but also the boards of the false and true floors decayed. This, he held, was due to neglect by the contractor. Most frequently the "pugging" was at fault, wet deadening material having been used for this purpose instead of coarse dry mortar, coarse sand, or clean gravel.

It was a great mistake to cover the floors too soon with oil paint or parquet, because this prevented evaporation of any moisture that might have been originally present in the boards, or that might have been imparted to them by the packing material. In cellars and domestic buildings where dry rot had not already committed too much mischief it might be effectually checked by washing it with a strong solution of corrosive sublimate.

LEGAL.

Liability for Accident.

September 28. Birmingham County Court. Before Judge Ruegg, K.C.

Frederick Joseph Alldruit, electrician, brought an action for damages in respect of personal injuries against John Barnsley and Sons, builders. Mr. J. H. Slater (instructed by Kingsley, Wood, and Co.) appeared for the plaintiff, and Mr. Wylie (instructed by Shirley Smith and Malins) was for the defendants.

Mr. Slater stated that in March of this year structural alterations were being carried out by the defendants at the Alms-house, Steelhouse Lane, and the plaintiff, who was in the employment of another firm, was engaged on the electrical fittings. A trench was left unprotected at the bottom of the staircase, and the plaintiff sustained his injuries by falling into it. The question for his Honour to decide was whether there had been contributory negligence on the part of the plaintiff. On the date of the accident the plaintiff had worked until 8.30 in the evening, and as he was walking down the stairs he was preceded by a boy, who held a lighted candle. He was not aware of the existence of the trench, which had been dug that day and left unprotected, and counsel urged it was the duty of the defendants to see that there was nothing in the shape of a trap which would endanger any of the men. The defendants' workmen left the premises at 4.30 in the afternoon.

For the defence it was alleged that there had been contributory negligence on the plaintiff's part. The trench had been made some days previously, and the

plaintiff should have been aware. Boards had been placed across the trench. His Honour held that the trench had been sufficiently protected, and awarded damages amounting to £15 15s.

REPARATION WORK FOR ANDREW'S CHURCH, PERSHORE.

A meeting has been held to consider the architect's report on the condition of the church of St Andrew, Pershore. The Vicar, who presided, said he did not like the idea of going forth that this was a restoration. It was merely a case of putting one's house in order, as it were. In examination it was found that the east end of the chancel was crumbling at the base. They later found that there was a little unwanted ventilation in the chancel. There was a threatening collapse of the structure of the east wall of the chancel. The masonry there might last for any time, or it might last for another year. There were also cracks in the organ, and a bulging in the south wall. In consequence of this the vestry, to which the churchwardens and the architect undertook to consult the architect (Mr. Brakespear), who had since made a report. Mr. Brakespear wrote the following letter: "I have carefully examined the condition of St. Andrew's Church and find there are two places requiring special attention, namely, the walls of the south aisle and the walls and roof of the eastern end of the north aisle. The aisle of the nave has been built with the eastern portion with the lower part of the west wall being the earlier, and the upper part of a transeptal chapel with its walls placed north and south. When the part of the aisle was built this chapel was done away with and the aisle covered by the present roof running east and west. This roof has spread very considerably, pushing out the south wall, and the beams have been added to counteract the thrust, but without success as they are carried on corbels built into the south wall of the nave. The ends of the beams are secured through this wall by iron bolts, and the beams do not seem to have moved since. The south wall, however, bulged to an alarming extent, and the south-east angle is badly cracked. If, as I believe, the thrust of the roof has been checked, these defects are not a want of foundation, and the wall will be to be securely under-pinned and the plaster placed on the south side. The plaster should be removed from the south wall externally, and insecure portions of the wall facing refixed and grouted, and the whole pointed with lime mortar and built into the joints with a rounded stick. The north aisle of the nave was also built in a similar way to the south aisle, and in this case the chapel was further east. It is still covered by a roof placed north and south. There is a very serious crack in the north-east angle and the roof, which is covered with lead, appears to be in a bad condition. The north wall is moving and should be underpinned, and one of the buttresses of the original buttresses reinforced and strengthen the wall. The lower portion of the vestry walls are in an insecure condition and will require to be built up in short lengths when the faces are perpendicular. The estimate received from Messrs. C. and Godfrey, of Tewkesbury, amounts to £175, to which a certain sum should be added to cover the cost of any extra work. It was resolved to proceed with the work without delay."

NEWS ITEMS.

New Sanatorium, Lincoln.

Sanatorium which has been built as a memorial to the late Mr. John Dawber, at Lincoln, will accommodate thirty-five patients. It has been designed in the City Engineer's department, under the supervision of Mr. F. Taylor, and Mr. F. W. Taylor, of Lincoln, was the general contractor.

Bradford Labourers' Demands.

In response to the demand of builders' representatives at Bradford for a halfpenny per hour in advance, the masters offered the independent subject to full time being worked, the men asked for an unconditional advance. Many local firms have agreed to the terms, and they are at work whilst other men have taken employment in other industries.

John and Albert Museum Rodin Collection.

A collection of bronzes by Auguste Rodin presented by the sculptor to the John and Albert Museum, have been removed from Edinburgh, where they were loaned by the Royal Scottish Academy during the summer, and replaced in the West Hall of the Museum, where they are now on view.

Public Trustees' New Offices, Kingsway.

A new building in Kingsway for the accommodation of the Public Trustees' Department comprises nine floors and a basement and extends from Kingsway to Grafton Street into Lincoln's Inn. It is of Portland stone, and the design was produced under the supervision of Sir Henry Tanner, C.B., F.R.S., and Mr. H. A. Collins, F.R.S.

Leicester Builders Busy.

At a meeting of Leicester Town Council, councillor J. Loseby mentioned that he had passed plans for thirty-one new houses and four factories and workshops. Alderman Yearby remarked that out of a total of fifty plans considered by the committee, several of them would involve an aggregate outlay of £70,000, so that it looked as if the builders would have a busy time for this winter if they could get the necessary labour.

A Gift to Mr. Brangwyn, A.R.A.

A silver vase, designed by the famous sculptor Dalou, has been presented to Mr. Brangwyn by the French Ministry of Fine Arts to thank Brangwyn, A.R.A. The gift is made in grateful recognition of the assistance given by the French nation by Mr. Brangwyn of a complete set of his works. Several of these fine etchings have been made familiar by excellent reproductions of them in the "Architectural Record."

Police Buildings at Llandudno.

At the first petty sessions of the Llandudno Bench in the new courtroom at the Police Buildings have been held. There was a large gathering of magistrates, councillors, members of the Urban District Council, and others, but no ceremony was held, the justices taking their seats at the first case being at once called. The new building, which is conveniently situated near the railway station, on land purchased from Lord Mostyn, was designed by Mr. J. Holt, Manchester, and the contractor is Mr. Luther Roberts, of Llan-

Town Planning at Darlington.

The Darlington Streets Committee have resolved that they should go on with the preparation of the town planning scheme "as soon as the Town Clerk and Borough Surveyor can find a staff," and that a Bill should be promoted. It was also decided to allow the Primitive Methodist Church to carry out the widening of the road at Greenbank and Woodlands Road corner, and to allow them 4 per cent. on the money spent until a loan can be raised by the Corporation.

Waterproof Flooring for Factories and Workshops.

In factories and workshops where water is used for flooding the floors it is essential that the floors shall be made perfectly waterproof. At Plymouth the upper floor of a garage used for motor washing has been made wet-repellent by a waterproof cement rendering. It was most important that this floor should be waterproof, as the fitting and lathe shops were directly underneath. For this purpose Pudlo was employed, and the manufacturers inform us that the architect is pleased with the result.

Change of Address.

The General Fireproofing Co. announce their removal from 34, Gresham Street, E.C., to larger premises at 1, Central Buildings, Westminster. They are the proprietors of "Self-sentering," a system of metal lathing which acts both as form and reinforcement for roofs, floors, walls, partitions, and fire-resisting ceilings; and of "Trussit," a deeply corrugated metal lathing for solid partitions and outside walls, permitting of the erection of thin but rigid fire-resisting walls at minimum expense. These specialities are described and illustrated in the "Concretor" section of "Specification."

Carmelite Convent, Wigan.

Plans of a proposed new Carmelite Convent, to be erected in Roby Mill Road, Wigan, at a spot opposite to the Roby Mill Police Station, have been provisionally passed by the Upholland District Council. The clerk stated that there was a question as to the building line, which had to be observed as this would be the first building to be erected on that side of the road. It was eventually decided to appoint a sub-committee to deal with the matter, and after meeting on the spot to settle the question of the building line. With this provision the Council passed the plans.

Parish Club, High Wray.

A new parish club-house, which has been opened at High Wray, near Barrow-in-Furness, is built of local stone, and the roof is covered with Westmorland green slate. The billiard room is 26 ft. by 17 ft., with an annexe of 16 ft. by 7 ft. There is also a reading-room 16 ft. by 14 ft. Around the rooms is a wood dado 4 ft. in height, and the inside of the rooms is stained and varnished. In addition to heating with pipes, there is a fireplace in each room, and, for lighting, petrol vapour gas lamps have been purchased. Mr. A. F. Whitwell, F.R.I.B.A., of Ambleside, is the architect.

Housing, Birtley.

At a recent meeting of Birtley Parish Council, a member asked whether it was a fact that 500 houses were to be built at Birtley in the near future. In reply, the chairman said that "no doubt a hundred or so would be built within the next few years"; and in the ensuing discussion

another member said that, under present conditions, so far as speculative building is concerned, no builder would be likely to tackle the housing question, as the cost of building has increased 30 per cent. as compared with twelve months ago. If he did it would mean that he would have to charge 30 per cent. more rent, which would mean that after the war he would either have to run his houses at a loss, or all the rents in the town would have to be increased to the same level, which would be disastrous to the working people of the place. It was resolved to seek Government aid.

ARMY HUT CONTRACTS: TIMBER TRADE PROTEST.

The Timber Trades Federation has considered the new clauses which it is proposed should be embodied by the Office of Works in certain Government contracts for the construction of huts for soldiers, and the secretary of the Federation has asked the Office of Works for an explanation of the meaning of the clauses. Practically, they amount to an undertaking by the persons tendering that they will not go into the open market to buy any timber which they may require for their contracts, but will obtain it from H.M. Office of Works. The contractors are also to take delivery of such timber as and where it lies.

The explanatory letter from the Office of Works is as follows: "I am directed by the First Commissioner of H.M. Works, etc., to acknowledge the receipt of your letter, and to say that the clauses reproduced in it are not part of the Office of Works building contracts, but are part of a contract form used by the War Office in connection with the provision of certain classes of huts.

"The object of the clauses was to give a further extension of the system whereby timber for the War Office is obtained from this office, so as to avoid competitive buying of timber in the same market between Government departments.

"In operating under the contracts it has been found convenient, in view of the urgency of the demand for huts and of the shortage of Government stocks of the particular sizes required, to arrange that Government stocks shall be drawn upon only for a certain number of firms situated close to certain assigned ports of entry, and to leave the balance of the contractors to provide their own timber."

The Timber Trades Federation, in reply, has unanimously adopted the following resolution: "That this meeting strongly deprecates the action of the War Office and H.M. Office of Works in connection with the new form of contract for the supply of timber for huts and other Army purposes, and protests against Clauses 5 and 6 as being wrong in principle and calculated to restrict the freedom of the market, and to inflict hardship upon the timber trade generally, without any advantage of economy to the country."

It is pointed out in the "Timber Trades' Journal" that, although these clauses are proposed to be confined to contracts for building portable huts, these represent a very large portion of Government work, and it is urged that the new clauses would enable a contractor, with but little stock in his yard, to tender for a contract at a low figure, basing his expectation of profit on his expenditure for labour, and not upon materials supplied, and then, his tender being accepted, to call upon the Government to supply nearly the whole of the wood required at his price.

TRADE AND CRAFT.

A Dinner to Builders' Foremen.

The foremen employed on barrack construction by Messrs. Sykes and Son, Ltd., of 10, Essex Street, Strand, W.C., were entertained to dinner at the King's Head Hotel, Richmond, Yorks, on September 23, Mr. Alfred Gee, the managing director, presiding over a company of forty-two.

In replying to the toast of "The Firm," Mr. Gee stated that it had been in existence for just over 150 years. He then dealt humorously with all the trades in turn. "We begin with the levellers," he said. "They give us a fair and square start, and may we always act on the square and always keep a level balance." The excavators "start building, and also, let me remind you, perform the last rites on us. May we, therefore, all through drive a straight furrow." The concretors "give us a sure foundation." The steel erectors "give us a substantial framework, without which we should be like a man without ribs, or a lady without corsets." Then he mentioned the bricklayers: "They fill all in, and give shape to the building." The carpenters and felters "finish and straighten things up: they give us a good straight floor to walk on, and keep the unkind elements out." The plasterers "coat the walls smoothly to add to the appearance and soundly to keep the water out." The plumbers "let the water in and help to keep us clean"; whilst the drainlayers "remove all that would otherwise offend"; and as for the painters, "they are a sinful lot, but yet contrive to cover a multitude of sins." When all is finished, the surveyors come on the scene, "and they seem to delight in making things appear what they are not." And, all through, the timekeepers "keep us all up to the scratch," and the general foremen "hop about all over the place and keep their eyes on everything." The transport, cursed by everyone, are yet "transports of joy" when they do arrive. In conclusion, he implored everyone not to forget the effect that gave excellent credit to the mutual good feeling and understanding that existed between them. This should augur a successful completion of so important a contract, and with beneficial results both to the master and the men employed.

Although there is a large staff engaged, the work is so urgent that the contractors can find employment for men from any part of the kingdom. Good wages are paid, good time made, and everything possible is done for the comfort of the men.

"A Thousand and One Uses for Gas."

The British Commercial Gas Association (47, Victoria Street, Westminster, S.W.), a co-operative and advisory body representing the chief gas undertakings of the United Kingdom (the advice and assistance of whose experts on any matter connected directly or indirectly with gas are at the public service), issues each month to business men and women a publication entitled "A Thousand and One Uses for Gas," dealing with the practical applications of gas in business and in the home. This month's issue describes the various possibilities of gas for the purpose of domestic hot-water supply for all classes of work, in town and country. It is profusely illustrated, and deals with the hot-water question with regard to hygiene as well as domestic comfort and convenience.

"The W.A.A. News."

Messrs. Waygood-Otis, Ltd., Falmouth Road, London, S.E., issue monthly a very entertaining little house publication called "The W.A.A. News, the official organ of the Waygood Athletic Association." Naturally, the contents are well sprinkled with Attic salt, as witness this extract from "Telephone Tips": "After asking for a number, it is as well to keep within a five-mile radius, so that you can be found in case your number should come through. It is as well to remember that the telephone is occasionally used for business calls, and therefore private calls should not exceed two hundred a day. If a number is not known, just ask for Brown or Smith, somewhere in the City. The operator quite understands, and will be able to connect you. The telephone box should be situated in a quiet spot. It is therefore as well not to hold Board meetings outside the door."

Under the heading "Gossip" we get this item of athletics: "The recent mixed cricket match, with its pantomimic exuberances, ended in a complete victory for the Ladies, who were defeated after a hard and drawn game. The scores were indefinite, several goals being registered by both sides. There were several love sets."

Messrs. Waygood-Otis having contributed large numbers of recruits to Kitchener's Army, the "News" contains many interesting service items. Lieutenants T. F. Wiley and G. S. Steed are congratulated on their promotion to the rank of captain in the Royal Engineers, and L. Gibson, R. T. Marris, and S. H. Murcott on obtaining commissions; while it is recorded with regret that Private W. Twigg has been wounded in the arm in action near the Dardanelles, and Private W. Wallace wounded in the left foot by shrapnel at Givenchy. Each month the "News" contains a letter from Falmouth Road to friends and colleagues serving with the Forces. This month's letter, by Mr. L. C. Gay, concludes: "We are always thinking of you who are straining your greatest energies and risking your lives, but happy is the country that can boast of such sons!" One can understand with what pleasure this brightly written little publication is received in the trenches.

PROPOSED RAILWAY STATION ALTERATIONS, GLASGOW.

The proposal to improve Queen Street Railway Station, Glasgow, is detailed in the minutes of the Committee on Statute Labour, which came before a meeting of Glasgow Corporation. The minutes state that the special sub-committee appointed to consider and report on the proposed improvements met in August, when the plans were submitted. These showed that the alterations included the removal of the existing buildings between the west side of North Queen Street and the offices situated at the corner of Dundas Street and West George Street; the erection of a one-storey building in lieu of them, the frontage of which, to North Queen Street, would come forward to the extent of 16 ft. on what is at present the footpath and carriageway in that street; the removal of the existing luggage and parcels entrances in West George Street and North Queen Street; the formation of a staircase, 30 ft. in width, giving direct connection between West George Street and the station platform; the removal of the parapet wall and railing and the steps giving access to the

office and buildings in West George Street and the widening of the pavement up to the building line; the removal of an area wall and railing in Dundas Street a distance of 18 ft. from the building line of West George Street; and the formation of a verandah over a portion of the footpath in front of the new station building in West George Street. After consideration of a report by the Master of Works, a sub-committee agreed to confer with the directors of the North British Railway Company on the matter.

A conference with the directors was held subsequently, when the directors intimated that they would be prepared to dispense with the proposed verandah for luggage from West George Street. At a meeting on September 23, the sub-committee by four votes agreed to recommend approval of the proposed plans. The sub-committee's recommendation came before the Statute Labour Committee on September 24. After discussion, a vote was taken on the motion of hands between the motion for amendment, the question before the committee being "Proceed" or "Do not proceed," when six members voted "Proceed" and ten "Do not proceed." The amendment was accordingly declared carried and the railway company's proposals were disapproved.

GEORGE WASHINGTON'S QUARRY AND AN ENGLISH QUARRY.

Within a short time, according to a Stockton newspaper, there will be a considerable quantity of paving stones with the object of paving the portico in George Washington's home beyond the Atlantic. Mr. Ridley, J.P., of Middlesbrough, who has been instrumental in developing the quarry from which the original stones were taken, has now arranged to send out a sufficient quantity to enable them to accomplish what they have had under consideration for some time past.

A committee of ladies, one from each of the States in the Union, have taken the maintenance of the home of the first President of the Republic, and their desire to have the restoration carried out with stone from the quarry which supplied the original. It was first proposed that the Isle of Wight had furnished the stone, but as a result of an interview with Mr. Ridley had with the committee, a visit was paid to Whitehaven, where an identical stone was discovered.

Mr. T. W. Ridley, writing on the subject, recalls the saying of Emerson that every action is measured by the sentiment from which it proceeds. In this sentiment, he asks, prompted by the can ladies to order a few hundred stones which are now lying in Bolckow's wharf waiting for shipment. They are to be used for repairing the portico in front of Washington's Mount Vernon, and over which he once less sauntered and enjoyed the view of the Potomac. The old stones he had from three samples sent by his agent, they were quarried near Whitehaven (where his grandmother lies buried) shipped from there to America a few years ago. The quarry from which the original stone was taken being disused, stones were, therefore, obtained from the same bed—a thin white band between red sand stone at St. Bee's Head, Cumberland—and these now await shipment to Middlesbrough.

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AN IMAGINARY PRISON.

(From Piranesi.)

THE ARCHITECTS' & BUILDERS' JOURNAL.

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TOTHILL STREET, WESTMINSTER.

VOLUME 42. No. 108

EDITORIAL.

AMONG the officers killed in the great attack by the British in Flanders were Captain Douglas Carmichael and Captain Bernard H. Holloway. There is a remarkable parallelism in the cases. Each was the son of an eminent London builder. Mr. Henry Holloway, J.P., was President of the London Master Builders' Association in 1896, and Mr. James Carmichael, J.P., occupied that position in 1904-5. Both the young heroes were of the Leys School and of Jesus College, Cambridge, of which Captain Carmichael (who was only twenty-one years of age, and therefore one of the youngest officers of his rank) was an undergraduate, while Captain Holloway had taken his degree. As a footballer, Holloway gained his Rugby blue, and as a batsman he was of such excellence that his exclusion from inter-varsity matches was a mere matter of chance. Although he had abandoned his studies for the Bar as soon as the war began, and showed marked ability as an officer, he had been at the front only a few weeks when he made the great sacrifice. Of the manner of his death the record is not yet to hand, but we make no doubt that it carries out the parallelism of the two cases; and of Captain Douglas Carmichael, his commanding officer records that "he carried four lines of trenches with his company under a desperate artillery and machine-gun fire. . . . It was glorious to see him throw himself on the packed masses of Germans and almost alone force them back. . . . I have asked for the V.C. for you [his parents], for he would have earned it ten times had he lived." Wounded, he refused assistance, and when he was struck down by a bullet from a machine gun he was actually "hopping on one leg, under a murderous fire, towards the next line of German trenches." Truly a noble death.

Like the English Board of Agriculture and Fisheries, the Scottish Board of Agriculture has ideas about cottage building, and they are not particularly brilliant ideas. Unfortunately, the Scottish Board goes a step farther than the English. It not only prepares plans (we have not heard that it publishes shilling working drawings and penny specifications), but builds from them; and a medical officer of the Kilmarnock District Committee of Ayr County Council does not think much of them, if he is correctly reported as having "characterised the houses as of a very inferior type," and as having "expressed the opinion that, in view of the demands recently made in regard to miners' and other dwellings, their erection was a retrograde step." This was a mild and cautious pronouncement compared with what the chairman of the committee said. According to the report in the "Scotsman," he "thought it was a disgraceful thing that a public department like the Board of Agriculture should

build houses of this description," adding that all his forty years of experience he had never seen plans for houses of that kind submitted to an authority. Nevertheless, the plans "conform with the bare requirements of the building by-laws, and the committee had no option but to pass them. Without seeing the plans it is, of course, impossible to gauge the extent to which these strictures are justified, nor is the point of any importance in so far as it relates merely to a particular instance.

On the other hand, the incident is of some importance as a danger-signal. It gives us occasion to issue the warning that we have frequently given in the past: that the systematic debasement of building, which ensues upon the indication of minimum requirements. What is considered by a Government Department to be good enough comes in time to be regarded as an exemplary standard, whereas nothing of the sort. Yet it acts as a strong temptation or incitement to sail as close as possible to the wind, with results that, whether or not the Kilmarnock case is a flagrant example of them, cannot be otherwise than deplorable in reflex influence as well as in direct incidence.

Scotland's peasantry, which shares with Ireland the reputation of being the finest in the world, flourishes, someone has said, in spite of coarse oatmeal and the Shorter Catechism. These drawbacks the caustic commentator might have added the worst kind of housing, and it is gratifying to find some evidence of revolt against the perpetuation of this last and worst enemy of the peasantry. There is no doubt at all that in the immediate future this question of the housing of workers will have to be taken up, not only for Scotland, but for the whole kingdom, in a new spirit. Housing has been hitherto regarded as wholly subservient to the poverty of the workers; but the broader, not to say more humane, view, which sooner or later must prevail, is that wholesome homes being essential to social well-being, no petty pecuniary consideration should be allowed to imperil the nation's chief source of vitality. In the war, when economic questions will be revived with tenfold intensity, the housing problem, if properly treated, will be based on much broader issues than that of a labourer's ability or inability to pay sixpence a week more in rent. Merely sectional interests, whether those of the landlord or the tenant, and the shortsighted "business" view, which seeks for nothing beyond the immediate visible and tangible money profit on a speculative action, must give place to a wider, saner, and more imaginative outlook, having for its object not petty-fogging thrift nor faddy philanthropy,

manlike regard for the health, wealth, and
y of a nation whose existence must depend
singly on the quality of its brain and brawn,
, again, depends on the quality of the housing.

is notorious that the existing machinery for
g with the housing problem—such as, for
ce, the Small Dwellings Acquisition Act, to
othing of the Town Planning Act—has greatly
ointed the hopes of those who had conceived
he agency of wholesale regeneration. Results
only fall short of sanguine anticipation; and
achinery always runs a little stiffly, requiring
d deal of lubrication and possibly some modifi-
on of the working parts. Both remedial
ures may be necessary in the present instance,
e put considerable faith in lubrication—that is
y, in the adoption of every available means of
g the machinery in motion and of keeping it,
engineer would say, “running sweetly.” In
English, this means the vigorous prosecution
n educational campaign; not immediately,
se it is undesirable to come into competition
another campaign that for the moment is
bing the energies of the nation, but promptly
the first opportunity. In the meantime, it is
o soon to prepare the plans for it, and those
ects who just now happen to have unwonted
e may profitably devote some of it to the more
gh study of the housing question in all its
gs—by no means neglecting the psychology
for before all things it is necessary to convince
minds of the supreme importance of the sub-
a thing that ought to be, but certainly is not,
vident to the meanest capacity.

important aspect of the housing question is
everywhere rents are going up, partly because
“house famine” that is becoming acute as a
quence of the suspension of building, and
because landlords are endeavouring to recoup
elves for the increased expenses of building,
p, and of mere living. In Glasgow a rent
is rapidly spreading, and a “factor” who had
ed to accept payment of rents at the old rates
ased through the streets and pelted with pease-
y the women. Really it was quite superfluous
mplicate the economic problem with pease-
which ought not to be wasted in war time,
ver may be said of it in times of pease and
; however, university students, who long
discovered its virtues as a missile, are apt
onopolise the supply, and perhaps academic
ple has obscured the merits of the meal as a
tuff.

Increased rents are a necessity of the occasion,
st follow that the workers must either receive
r wages or adopt a lower standard of living,
tter alternative being in too many cases well-
mpossible. Sooner or later, Government inter-
on of more effective character than any yet
ed will be inevitable, for private enterprise will
ite inadequate to the new conditions. Whole-
“khaki” weddings are further complicating
problem. Poor young couples who, in ordinary
stances would have waited until the man
provide his bride with a home, now haste to
edding on the strength of the bride’s being able
nain with her parents, or to support herself in
-room lodging. A similar case, greatly differ-
f course, in scale and magnitude, and in other
cts, but yet comparable in its essential
cter—is that of the young officer who is marry-
me four or five years earlier than in ordinary
stances would have been thought prudent.

Now, prudence having been cast to the winds, the
young officer, on his return, will be confronted with
an acute form of the housing question. Not in every
instance will he be able to realise the honourable
ambition of giving his bride as good a home as the
one from which he takes her. These are matters for
the architect as well as the sociologist to ponder, for
they foreshadow considerable modification in house
design as well as in the mere provision of dwellings.

It used to be said that in the miser and the spend-
thrift extremes met, the one being no better, or no
worse, than the other. But that was before the war.
Nowadays patriotism is held to cover a multitude of
economic sins, and it is too often one’s plain duty to
combat fallacies that would defeat the very object
at which they aim. A mild instance of this panicky
fit takes shape as a question in the “World,” in
which a writer asks, “In these times of economy
should the Indian Government be laying out money
on town-planning, however otherwise desirable?”
This is prefaced to the announcement that
“apparently the Madras Government have arranged
with Mr. H. V. Lanchester to go out next month as
Town Planning Adviser to the Government for a
period of six months, and have applied to the
Government of India to sanction the arrangement.”
Why carp at it? No greater extravagance than the
architect’s fee is involved; and without being
“unpatriotic, not to say treasonable” (Mr.
Lanchester may recognise the phrase), we may hope
that the fee is princely. It would be bad policy,
indeed, to convey to impressionable India the quite
erroneous idea that our great Empire is paralysed
and impoverished by the war. Let the “World”
take comfort from its own further announcement
that “Mr. Gilbert Slater, the new University Pro-
fessor of Economics for Madras, goes out by the
same boat as Mr. Lanchester.” Art and economics
in the same boat is an expressive figure of happy
augury for sanely balanced views of thrift—and of
town planning. Each can correct any tendency to
aberration in the other.

A revised version of the gun-emplacement fable
comes from Paris. It appears that before the war an
hotel manager purchased—let us say “somewhere in
France”—an extensive estate, surrounded by three
streams, “under the pretext of erecting a model
laundry.” A large building was erected, and the con-
tractor was instructed to lay down “a solid foundation
of reinforced concrete, which, in parts, was of unusual
thickness.” Why? To support the weight and resist
the vibration of the heavy machinery which would be
part of the laundry outfit? That would be too prosaic
an explanation for these exciting times, and there are
those who express the opinion that “the reinforced-
concrete foundations—whence the laundry machines
could easily be removed, as they were merely bolted
down—formed splendid platforms, which might have
been intended to bear siege guns” with which to “bom-
bard the capital.” Of course, the Hun is, as the French
author remarked of Habakkuk, capable of everything;
but, nevertheless, after ascertaining the baselessness
of several similar stories that were set afloat in our own
country soon after the war began, we are the more fain
to believe that a man may build a laundry, having
specially thick floors for the heavy machinery thereof,
without reflecting that, in case of war, those floors would
make excellent gun-platforms. These romantic
stories, however, make entertaining reading, even
though the plot is unconvincing. It may be freely
acknowledged that in one sense this story has a con-
crete foundation—reinforced—for which it is an excel-
lent advertisement. French architects will no doubt
be swift to class it as a tale of *coq à lâne*.

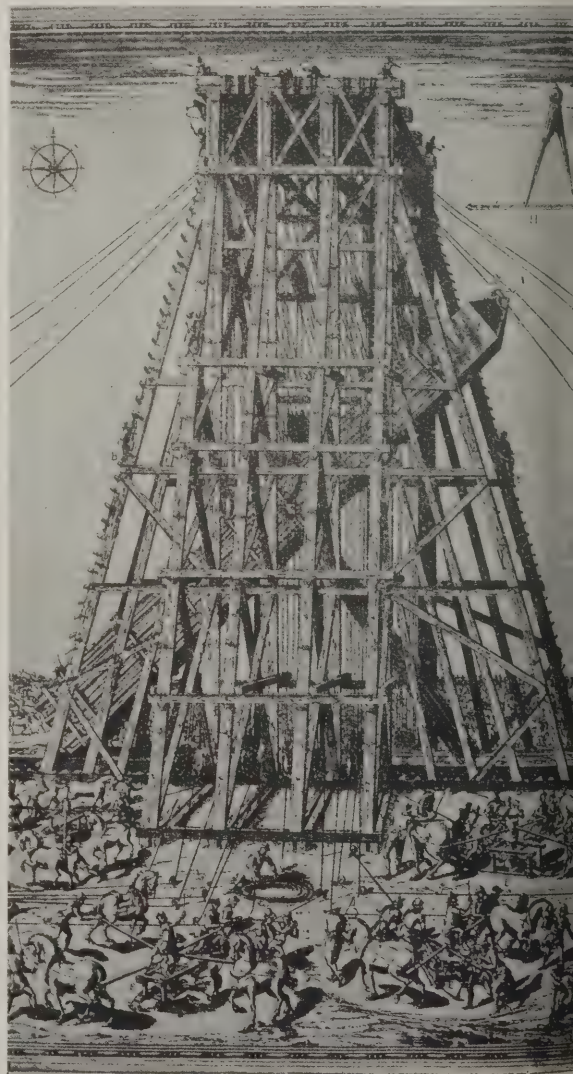
HERE AND THERE.

A CORRESPONDENT, referring to my notes on obelisks, reminds me of the frontispiece to Mr. Blomfield's book on architectural drawing. This shows Domenico Fontana's representation of the lowering of the Vatican obelisk. The original illustration is one of a series in the folio which the architect published in 1590, and as a copy of that work is not available to me at the moment, I have taken the liberty of reproducing Mr. Blomfield's frontispiece, at the same time giving an illustration of the raising of the obelisk, reproduced from Carlo Fontana's later folio on the Vatican (published in 1694), in which re-engraved plates from Domenico's original work are incorporated as Book III. With these most fascinating illustrations before us it is appropriate to give some little account of the undertaking. This great obelisk was brought to Rome in the first century of the Christian era, Caligula having removed it from Heliopolis—which is just north of Cairo—and it was set up, A.D. 357, in his circus, afterwards the Circus of Nero, the scene of the Christians' martyrdom. There it remained for twelve hundred years, the only one of the several obelisks in Rome that had not been overthrown by earthquake or other cause. In the latter half of the sixteenth century Pope Sixtus V. conceived the idea of putting this Pagan emblem to Christian use, by moving the obelisk to the centre of the great space in front of St. Peter's, and there setting it up with a cross at its summit. But how to do this was the problem. A competition for schemes was instituted, and about five hundred eager competitors came forward, each with a model, a drawing, or a description. One account runs, that this glorious collection of obelisk-movers were assembled together, and their various schemes adjudicated upon by the committee in charge of the work; but this story can hardly be credited. The Italians were never of the "quiet to ride or drive" order, and it must surely have been a second Babel if five hundred of them got together on such a business. Conceive the disappointed competitors hurling their models about; or, by way of suggestion, fancy, in our traditionally sedate England, five hundred architects meeting at the Holborn Restaurant, each burningly eager to explain his scheme for shifting the Griffin at Temple Bar! So that this account of the Vatican obelisk competition must err on the side of poetic license. The fact is, that the competition dawdled on for months, giving rise to much vexation of spirit, but eventually the assessors decided that Domenico Fontana's scheme was the one to adopt. According to this, the obelisk was to be lowered on to a horizontal roller platform, hauled to its new site, and then set up vertically with tackles and capstans. With a model—the obelisk fashioned in lead and the apparatus in wood—Fontana convinced the assessors of the soundness of his idea, but they seem to have had misgivings about his practical experience, he being then a young man of forty-two, so they decided that two older architects should be associated with him in the work; just as, in our own day, Mr. Bodley was associated with Mr. Gilbert Scott in the carrying out of Liverpool Cathedral, and Mr. Riley with Mr. Ralph Knott in the building of the London County Hall. Fontana, however, very rightly, would have none of this division of control, and made complaint to the Pope, with such success that Bartolommeo Ammanati and Giacomo della Porta, the two older heads, were dispensed with.

Alone in charge, Fontana began his task. He erected around the obelisk a huge scaffolding, 90 ft. high; encased the great stone with matting and planks bound round with iron bars; and fixed

in exact order his amazing arrangement of tackles and capstans, levers and wedges. It is there were forty sets of tackles and forty capstans worked by eight hundred men and seventy horses, together with five 50 ft. levers. To work with hydraulic, steam, and electric power, and cables, we could do the work much more easily even modern science could not lightly handle a monolith weighing no less than 350 tons.

The first thing to do, according to Fontana's scheme, was to lift the obelisk bodily about 2 ft. in order to get under it the roller platform on which it was to be hauled away. The undertaking, as I have indicated, was regarded as one of solemn significance. At dawn on the momentous April day in 1586, Fontana took communion, and, in the same spirit, just before the lifting of the obelisk was attempted, delivered this speech to the assembled thousands who came to witness the event: "Citizens, the work we are about to undertake is in the cause of Religion, and for the exaltation of the Holy Cross. Implore with me, then, the help of God, the sovereign moving power, without whose aid all our efforts must be in vain." All within hearing thereupon fell on their knees and said a *pater noster* and an *ave*. Then, in the quivering silence, a trumpet rang out from the scaffolding, and the men with their great levers, and the horses attached to the capstans started together, halting at sound of a bell, then taking up the trumpeting call again, until the task was accomplished. But this was not all done in one



THE LOWERING OF THE VATICAN OBELISK: APRIL, 1586.

upied weeks, and anxious must have been the
nts when the obelisk was at its most critical
forty-five degrees. It is well to remember,
er, that at no time did the whole weight come
tackles alone. The initial lift of 2 ft. was
ed in conjunction with great wedges, and when
elisk turned from the vertical a huge strut was
ainst it, and moved to the proper positions as
onolith came gradually down.

the flat on its roller platform, the hauling of the
k to the Piazza of St. Peter's, 275 yds. away,
comparatively easy matter, though a goodly
er of houses had to be demolished in order to
assage for the monster. There was a differ-
n level of 30 ft. between the two sites, and to
me this condition an earth embankment was
ucted, shored up with timber sheeting and
. Arrived in front of St. Peter's, the
s followed was much the same as that
d by the Egyptians themselves, and by
rench when they came to set up the Luxor
k in Paris; that is to say, a slope was built
the top of the prepared pedestal, and the
k was hauled up it, and then, with the aid of a
scaffold, tackles and capstans, pulled straight
bronze cross, about 7 ft. high, being set on
p.

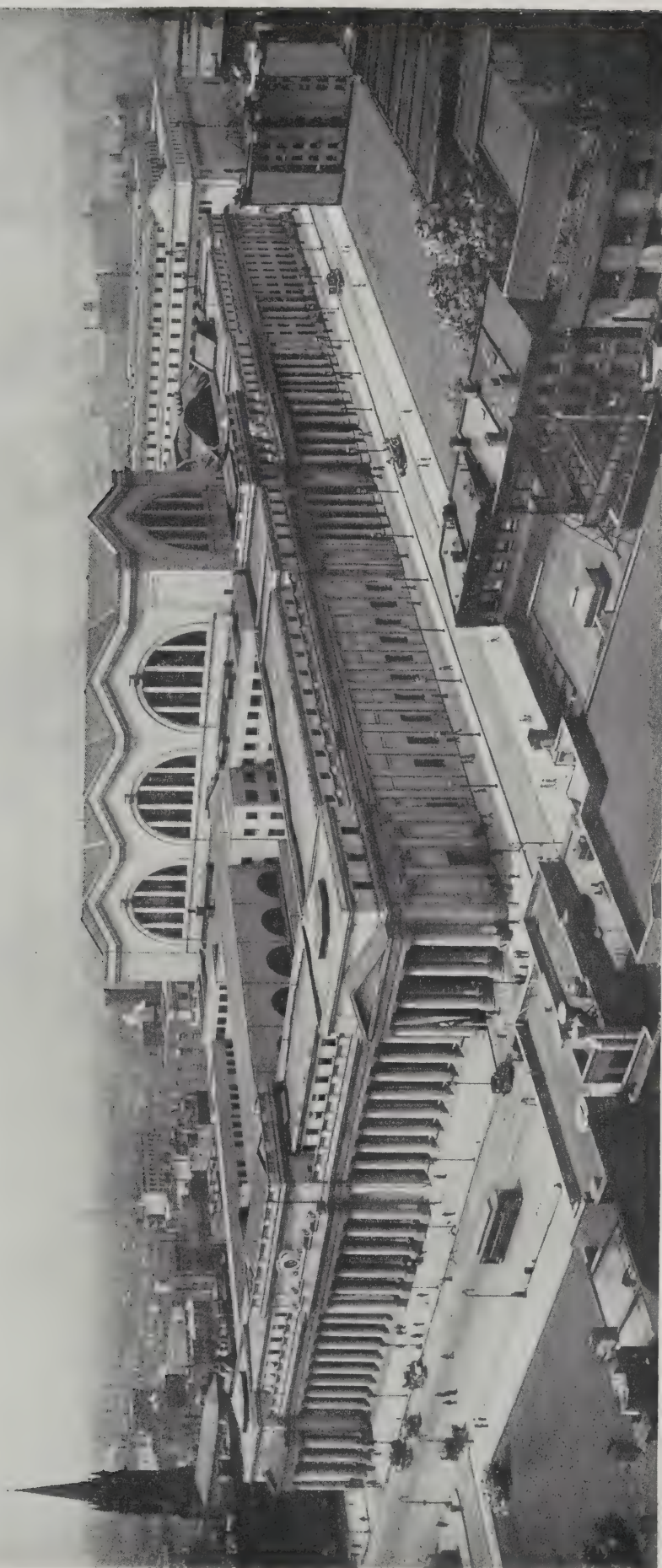
l now, having finished the description which
na's illustrations require, I may raise two little
ms in applied mechanics. The first concerns
ilor named Bresca who, though dead silence
joined on everybody, and the executioner was

present to exact the death penalty, shouted "Acqua alle
luni"—"Wet the ropes"—at the ticklish moment
when the obelisk was half-way up, and seemed to
stick there despite all efforts. Bresca's must, I fear,
be counted among those historic sayings that were
never said; Wellington's "Up, Guards, and at
them!" being of course among them. But even if
the sailor story were true, what would be the result
of wetting ropes which, assumably, were getting
near breaking-point? I leave that for my readers to
consider as a breakfast-table problem, with the further
suggestion that ropes of great size in those positions
could not be effectually wetted at all. The second
point arises from a note in Mr. Blomfield's book.
"In our frontispiece," he says, "is the obelisk,
half-way up." There is, however, no pedestal to
be seen; so is not this the lowering process, with the
obelisk half-way *down*—rather a hair-splitting
distinction, it would appear at first sight, but one
of much interest if the reader will endeavour to work
out what is happening when the horses and the
capstans are going round clock-wise. Obviously the
tackle for handling a mass weighing 350 tons could
not have been a simple affair of ropes winding on to
capstans through single pulleys; there must have
been a very complex arrangement of multiple
blocks; and a little essay in applied mechanics will
show that though the horses are winding capstans
clock-wise, they might thereby be lowering, not
raising, the obelisk.

Fontana, it may be added, erected three other
obelisks in Rome, one in the Piazza del Popolo,
another behind the Church of Santa Maggiore, and



THE RAISING OF THE VATICAN OBELISK: SEPTEMBER, 1586.



MODERN AMERICAN ARCHITECTURE. XX.—PENNSYLVANIA STATION, NEW YORK.

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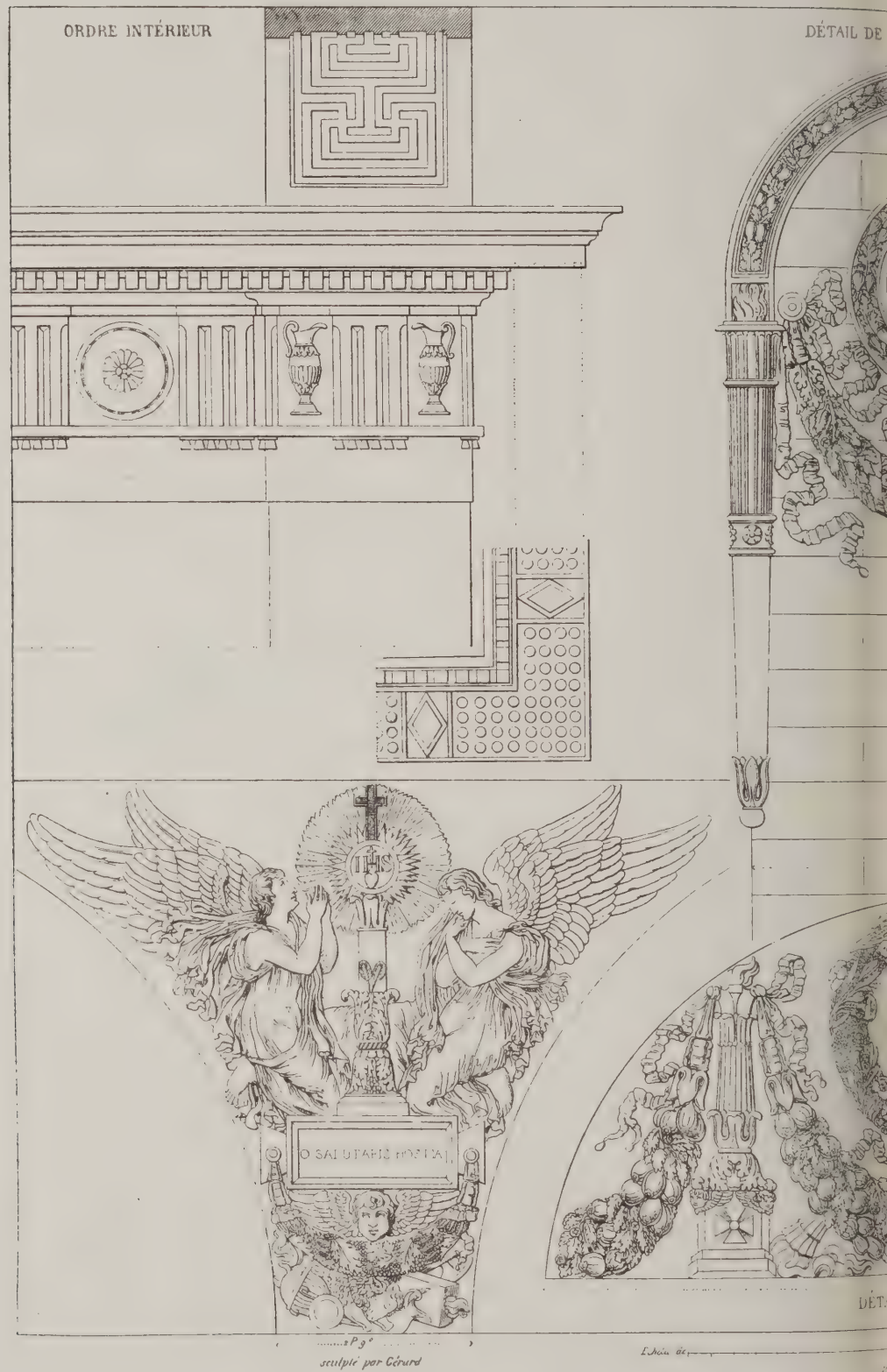
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NINETEENTH-CENTURY FRENCH ARCHITECTURE. XV.—CHAPELLE EXPIATION. FONTAINE.

ETRALE

ORDRE EXTÉRIEUR



6 Pans

sculpté par Gérard

DETAILS OF INTERIOR AND EXTERIOR ORDERS, AND ENRICHMENTS.

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SMALL HOUSES OF THE LATE GEORGIAN PERIOD (SERIES II.). VI.—HOUSE IN BELL STREET, HENLEY.

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sents a scheme in which all the masonry work, including the plastering, is of soft brown tones, relieved by the large waiting-hall with the dull blue and Siena of the maps, while the ironwork is emphasised by a greened paint.

The Pennsylvania Station is in the heart of the central district of New York City. It occupies two complete blocks, the actual area covered by the building being nearly eight acres, while the area of the station and subterranean yards is twenty-eight acres.

The frontage on each of the two avenues is 430 ft., and on each of the two streets, 784 ft. The average height of the building above the street level is 69 ft., the maximum height 153 ft.

The tracks are placed at a depth below the street level sufficient for the passage of trains under the buildings of the city, and yet the descent to them and the ascent to the streets, through three levels, is scarcely noticeable.

The main entrance is at Seventh Avenue and Forty-second Street, and leads to the great waiting-hall through an arcade 225 ft. long by 45 ft. wide, bordered on both sides by shops. At its further end the arcade expands into the loggia, a colonnaded hall, leading entrance to the dining-room and café on one side, and to the luncheon-room and buffet on the other. A broad stone stairway leads direct into the waiting-hall.

At the corner of Seventh Avenue and Thirty-first Street is a colonnaded entrance for vehicles, which ascends by an incline to the level of the general waiting-hall, where the ticket offices and baggage rooms are placed. At the corner of Seventh Avenue and Forty-third Street is a similar gateway for vehicles serving the station.

In the matter of entrances and exits the requirements for any number of people are fully met. There are both entrances and exits, each distinct, directly to the general waiting-hall and the concourse from both of the bordering avenues and streets, so that the incoming passengers may enter from the most convenient quarter, and the outgoing passengers may emerge on any one of the highways without interference, crowding, or confusion.

The magnitude of the station, the Classic lines of its architecture, and its pleasing colour, mark it as one of the largest and most notable structures in America. It is exclusively a railroad station in the heart of a city, a busy mart of unceasing human activity, where the lines of transportation that feed it are under the feet of the moving masses and out of the sight of all those who use them. The magnificent superstructure is but a pavilion of enormous proportions superimposed on the greatest traffic exchange in the world.

THE PLATES.

Pennsylvania Station, New York.

DESCRIPTION of this magnificent station is given in the foregoing article.

Details of the Chapelle Expiatoire, Paris.

The Chapelle Expiatoire stands in what was the cemetery of the Madeleine, entered now from the Boulevard Haussmann. The building was erected 1820-26 to the memory of Louis XVI. and Marie Antoinette, from designs by Fontaine. The plan is that of a Greek cross, with a dome over the centre, and a pedimented portico at the front. The plate in this issue shows details of the interior and exterior enrichments, and some of the finely carved enrichments.

House at Henley.

The house in Bell Street, Henley, is particularly interesting for the treatment of its ground-floor bay. It is rarely that a ground-floor bay is successful; more often than not it has the appearance of a box set

against the wall, quite disconnected from the general composition. In this case the obvious difficulty has been solved with great success, the bay window being surmounted by a balcony and the whole design treated so as to form a central feature with the first-floor window. The house is stuccoed and painted. It is a very well studied composition, free from all eccentricities, and crowned by a projecting eaves that gives a good shadow line.

Manchester Town Hall Mouldings.

Giving, as it does, the mouldings to the front elevation of the Old Town Hall, Manchester, this is a most useful plate. The contours of the mouldings are very refined.

THE PYRAMIDS UP TO DATE.

IN the "Architectural Review" for October, just published, there is an article on "The Pyramids in War-Time," written by Mr. G. J. Howling, a member of the editorial staff, now serving with the Forces. While stationed at Cairo, Mr. Howling took occasion to visit the Pyramids, and he gives a very interesting account of his impression of them. "The guides," he says, "will tell you that things are flat with the Pyramids. For soldiers are not noted for their wealth, and only a comparative few of these are sufficiently interested to make the ten-mile journey out of Cairo to see one of the seven wonders of the world. What profits it a guide, therefore, to make outlay on magnesium wire, lemonade, camels, donkeys, photographic apparatus, and the hundred-and-one odd things wherewith the useful piastre may be extracted from the tourist? Yes, things are flat with the Pyramids. And the majority of the soldiers who go to see them come back disappointed. Now, why is this? Is it because of a fundamental inability to appreciate antiquity, or because the associations of the present day prevent the pilgrim from getting back into the spirit of the past? Probably a little of both. If the Pyramids could be made to revolve like a joy-wheel, with accommodation for passengers on the circular trip, and be illuminated by electricity at night, it is quite possible that they would become very popular with a large section of the community. But the Pyramids cannot be brought up to date, and that is the reason why they are disappointing to such a large number of people. Everything, too, in the approach to the Pyramids militates against a proper appreciation of them. The visitor gets into an electric car at Cairo and, crossing the Nile over a wonderfully hideous modern steel bridge, is whisked up to the Pyramids at the rate of about thirty miles an hour. Here he alights, and is supposed to enter into the spirit of five thousand years ago, just as he would cross from one side of a street to the other. The whole thing is preposterous. Can it be wondered that a large proportion of those who go to see the Pyramids come back with disappointment on their faces and say: 'Oh, yes; very old, and all that; but just big heaps of stones. But we *did* enjoy the ride. The tramways here are first rate!'

... It may be advantageous to be able to reach the Pyramids by electric car in one-tenth the time it formerly took by camel; but this is not calculated to produce a state of mind capable of appreciating antiquity. It may be advantageous (to the advertiser) to have the Pyramids as a background for his advertisement hoardings; but there is no advantage in it to the pilgrim in quest of the spirit of the past. Take away all these things of the present, and journey out across the silent desert by camel—preferably at night, with the moon high up—and you will be in a better frame of mind to appreciate the wonder and mystery of the Pyramids. . . ."

omical exigencies prescribed for or
ning the design. An example of this
of construction is to be seen in a
l building at Southampton, N.Y.
4), of which Messrs. Hewitt and
mley were the architects. The
r spans 39 ft. and supports the seat
by means of two cantilevers, spaced
-ft. centres. The overhang of these
levers is 7 ft., and the anchor arm
.5 in. The seat tiers are of wood.
own a 6-in. slab has been built at the
edge of the cantilevers, forming a
ng and covering the construction.

The fifth example is the balcony in the
l at Torrington, Conn. (Fig. 5).
the design was changed somewhat
that shown in Fig. 2. As the total
of the main girder, 53 ft., was too
it was divided, by using two columns,
two 11½-ft. side spans and one 30-ft.
e span. The steps were made of
and were placed directly on a cantile-
floor consisting of an 8-in. over-
ing slab projecting 5½ ft. in front of
rider, and a T-beam floor construc-
between the girder and the rear wall:
tter portion serves as the anchor arm.
T-beams were formed by 10-in. Flore-
spacing the beams at 25-in. centres.
slab between these beams is 3 in.
The distance from the main girder
e wall is 22 ft. 10 in., and the total
a of the floor construction is 13 in.
underside of the structure is covered
ceiling formed of Hv-rib to which a
of plaster was applied. The architect
e general design of this building was
Wilson Potter.

The reinforced-concrete portions of the
e balconies were designed in the office
r. Herman Fougner, the New York
sentative of The Trussed Concrete
Company of Detroit.

REINFORCED CONCRETE FOR ROADS, SEWERAGE, ETC.*

BY ARTHUR E. COLLINS, M.Inst.C.E., City
Engineer of Norwich.

The ease with which the best shapes for
any particular construction can be ob-
tained in reinforced concrete has always
made it a fascinating material to engineer-
ing and architectural designers. Its
durability has been proved in many ways,
including the life of reinforced concrete
houses built in Newcastle-on-Tyne half a
century or more since. When the brick
walls of the sea-lock at Lowestoft were
pulled down some years since, the writer
saw hoop-iron reinforcing taken out quite
free from rust. It had been in position
between high and low water for half a
century or more; its condition was due to
the protecting influence of mortar. All
the reinforcing iron found was in equally
good state. That reinforced concrete is
reliable is shown by the large number of
bridges, reservoirs, piers, wharves, sewers,
and buildings of all sorts constructed of it,
and giving good service.

A Table of Constants.

The best British practice allows of
somewhat higher values for concrete in
compression than the constants in Hawks-
worth. Hawksworth refers to the New
York Building Law, wherein the maxi-
mum allowable compression in concrete is
500 lb. on the square inch, whereas the
Draft of Regulations of the London
County Council for Reinforced Concrete
of April, 1915, proposes the proportions
shown in the table reproduced on the next
page.

*Extracts from a paper submitted at the recent
annual meeting of the Institution of Municipal and
County Engineers.

Anyone likely to require to design work
in reinforced concrete should study the
London County Council Draft of Regula-
tions to be made under the provisions of
Section 23 of the London County Council
Act, 1909, with respect to reinforced con-
crete, dated County Hall, Spring Gardens,
April, 1915. It embodies much of the
work of the Joint Committee of the Royal
Institute of British Architects, Institution
of Municipal and County Engineers, Dis-
trict Surveyors' Association, Institute of
Builders, War Office, Admiralty, London
County Council, and Concrete Institute,
and gives a very complete set of working
rules for reinforced concrete design and
construction.

Where the reinforcement bars are not
sufficiently long, the writer prefers to
joint them by hooking, tying the hook and
making quite sure the bars are drawn very
tightly together before concreting. If
this precaution be omitted serious results
may obtain. It is obvious if any space
improperly left between the hooks be filled
with concrete its strength is quite in-
adequate to prevent the hooks drawing
more or less together when the reinforce-
ment is thoroughly stressed.

A Point in Pile-driving.

The writer was much concerned when
he drove his first reinforced-concrete piles,
several years since, by the extensive
shattering of their tops, and by the diffi-
culty of making them penetrate the layer
of faggots carrying the railway bank he
was operating in across a marsh. The
piles had been made several months, but
had little strength. On considering the
matter, it was remembered there had been
a month of severe frost, followed by cold
weather, commencing shortly after the
piles were cast, hindering the setting.
The period allowed for setting was in-
creased by the duration of frost, but
allowance was omitted for the slow thaw-
ing during the cold period following the
frost. The remainder of the piles were
not driven until thoroughly set, and no
further trouble arose.

Sulphur in Furnace Clinkers.

About fifteen years since, the writer
constructed reinforced concrete floors in a
large building he was then erecting. To
obtain lightness he used furnace clinkers
largely in his aggregate. His equanimity
was much upset by the forward movement
of the whole front wall of the building,
four storeys high, upon the asphalt damp-
course, which investigation showed to be
due to the presence of sulphur in the
clinkers, resulting in expansion of cement
in the concrete floors. The movement
amounted to less than ½ in., and did not
continue, nor have the floors given trouble,
but furnace clinkers have not been used
since.

Some Causes of Failure.

When constructing reinforced concrete,
see to it that all reinforcement is properly
placed, supported, and not displaced by the
concreting operations. If this be not done,
disaster may result.

Mr. R. S. Greenman, in a paper on
"Causes of Concrete Failures," pre-
sented to the American Society for
Testing Materials, states "that reasons
for poor concrete have been propor-
tioned as being 90 per cent. due
to poor workmanship, 8 per cent.
due to poor aggregates, and 2 per cent.
to poor cement. The percentages are not due
to tabulations, but are those prevailing in
the minds of many who have had con-
siderable opportunity for inspection of con-
crete, both good and bad." Without ex-
pressing an opinion upon these percent-

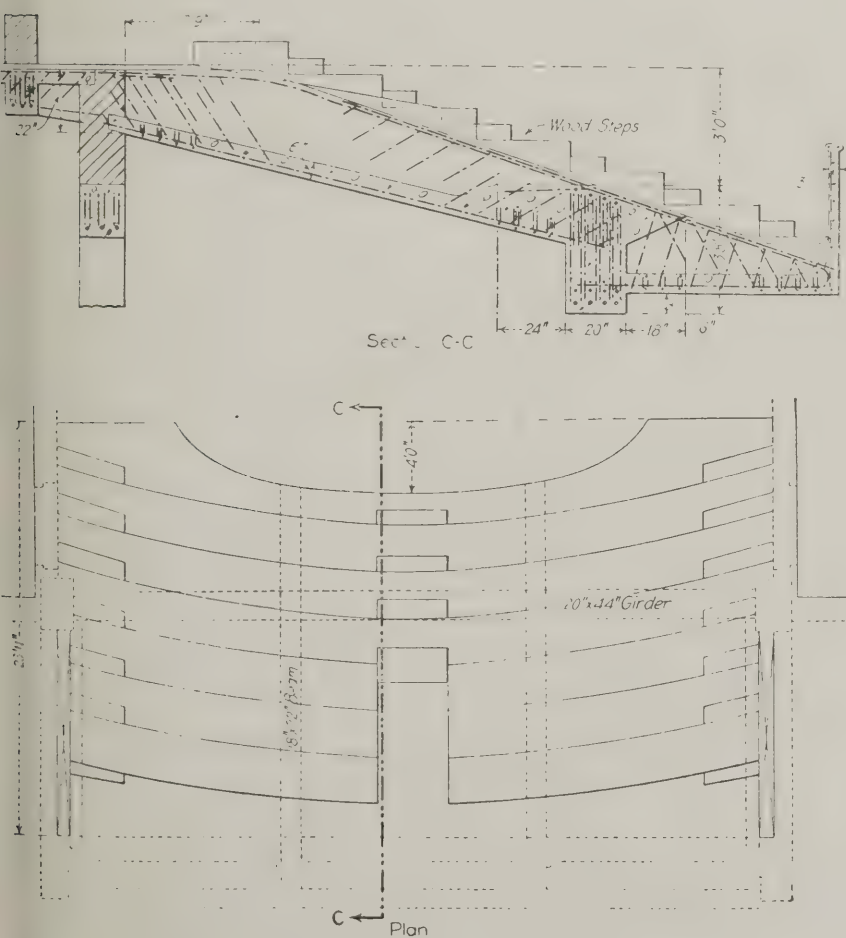


Fig. 4. Reinforced Concrete Balcony, Southampton, N.Y.

ages, it is obvious, seeing that most engineers test their cement, that the use of bad cement is not likely to be a cause of failure; again, engineers are usually able to ascertain the quality of aggregates before use. How many of us, however, have the opportunity completely to check the labour on our works? To say the least, it is probable Mr. Greenman's percentages are not far from actuality.

Care must be exercised all round. For instance, water flowing from woodlands containing vegetable extractives has a prejudicial effect on cement. Aggregates, such as destructor clinker, containing free lime are injurious. In his own work the writer has had concrete walls, pavements, steps, and other constructions injured thereby. Clinker, coke-breeze, and other aggregates containing sulphur, must always be avoided; they are destructive of cement. Some shale bricks contain sulphur, and old bricks of this variety are unsuitable for concrete aggregate. The writer is aware of great difficulties which arose with the brick walls of an important reservoir built with shale bricks, also with the walls of a sprinkler filter installation. The cement in the mortar became quite changed. In one case it had the appearance of unset chalk lime paste after a life of a year, although when first built the cement mortar set well.

Materials for Aggregate.

Probably the best material for the aggregate of engineering reinforced concrete is broken Portland stone. This should be used without screening, but care must be taken to remix the various sizes if they sort themselves in transit. Mr. J. P. Wells, an acknowledged expert on reinforced concrete, thinks very highly of this aggregate. Its specific gravity is not high; it breaks with a roughly fractured surface, and there appears to be an affinity between it and cement, with the result that where concrete made with it is crushed the fractures do not generally follow the surfaces of the individual stones; whereas, in the case of river ballast, and of many varieties of stones, this cannot be said.

Reinforced Concrete Roads.

The earliest use of reinforced concrete in road foundations known to the writer was by the president when engaged in road improvements in advance of tramway construction for the Middlesex County Council. In one of these roads the writer visited with him the regrading necessitated a considerable depth of clay fill; to avoid the worst consequences of settlements he covered this with a reinforced concrete raft. Upon recent inquiry the writer ascertained this had been successful. The reinforcement consisted of moderately

heavy round bars—probably $\frac{3}{4}$ in. diameter—laid about 1 ft. apart each way, embedded in the concrete.

Miscellaneous Uses.

Reinforced concrete is particularly adaptable for pile construction, whether piles are cast before driving or the mould is prepared in the ground by driving a shell, the reinforcement inserted, and the pile cast in situ, withdrawing the shell simultaneously with the casting. Large numbers of piles cast in situ are not reinforced.

Reinforced concrete is a most adaptable and suitable material for constructing manholes, underground chambers, etc., in unstable or water-bearing ground. The structures can be moulded in the dry and sunk to the required depths, necessitating the minimum of timbering and pumping.

About twenty years since, the writer sunk a large double screening chamber to many feet below water level in very bad, freely permeable ground. The work was quite successful in construction, and has cost nothing to maintain.

For retaining and abutment walls reinforced concrete is especially suitable, particularly where great width of foundation and weight are wanted, as in many dock walls. The walls can be constructed with flat plate or deck foundations, of any desired extension, vertical flanges, buttresses or revetments, and weighting shelves moulded at the back of the wall, so that the whole construction is monolithic. The soil removed in preparing the foundation can be filled in on the plate or deck foundation, and upon the weighting shelves at the back of the wall to provide the necessary weight.

Bridge Construction.

Some working drawings of executed reinforced concrete bridges were shown and briefly described as follows:

(1) Working drawings of Dolphin Bridge, Norwich, across the river Wensum; designed by the author and built by administration under him in 1908. In the attempt to get a pleasing surface to the visible faces of this bridge, the author used a mixture of cement with mica and quartz sand and fine gravel obtained from china clay works for a thickness of about 1 in., and scrubbed the surface immediately he could remove the moulds. The spandrels were cast against embossed sheet steel plates to obtain the decoration in slight relief. These plates were supplied by the British Stamped Metal Ceiling Company, Limited, 97, Queen Victoria Street, E.C.

(2) Coppermill Bridge, between Staines and Windsor, across the river Colne; designed and built by D. G. Somerville and Co., Limited, 120, Victoria Street, S.W.,

in 1914. The cost was about 15s. per ft. super. of bridge proper—i.e., excluding wing walls. The aggregate was dredged at the site. The reinforcement is all ordinary round bars.

(3) Culverley Bridge, 15 ft. span. The bridge was built by the Trussed Concrete Steel Company, Limited, Caxton House, S.W., for the New Forest District Council, using Kahn system reinforcing bars.

(4) Bridge at Prescott; seven spans, 11 ft. to 27 ft.; designed by Mr. H. Kington Dyson, Denison House, S.W.; in 1914, using Kahn system bars.

Sewer Construction.

The writer has used reinforced concrete largely in sewer construction, and with great economy. The 36-in. pump rising main at Norwich was constructed in this material some ten years since the "Bonna" system. It has been entirely successful in all respects.

There are considerable lengths of reinforced concrete gravitating sewage surface water sewers in Norwich from 42 in. diameter down to 21 in. Some have been laid a quarter of a century. All have been entirely satisfactory; no repairs have been done to any of them, and they are as good as when laid.

Culverts.

A cheap and convenient combination of concrete with steel can be used for the construction of culverts as follows: Prepare suitable concrete bed, finishing to about 1 in. below invert level. On this bed concrete supports, say 3 in. by 3 in. about 1 in. high, to the desired grade and height to support sheet iron or slip-jointed pipes; cover the pipes with concrete to the desired thickness. Use suitable concrete, the construction may be buried the day after construction. Eventually the sheet metal will rust away leaving a concrete interior surface to the culvert. If it be desired to avoid this, insert a spiral of, say, 3-16-in. or $\frac{1}{4}$ -in. to fit sheet metal pipe, the pitch of spiral being, say, 9 in., place a collapsible mould 2 in. smaller than the pipe, centrally within it, and run the annular space full of fine concrete. This is, of course, done before the pipes are laid. Allow for the lap of the slip joints when casting the interior concrete.

New Military Hospital.

A new military hospital has been erected on the outskirts of Windsor Great Park, Englefield Green, providing accommodation for 120 patients. The British Red Cross Society has contributed £10,000 towards the cost of the undertaking, and the remainder of the money required has been collected by Princess Christian. The general construction has followed the plan of the Red Cross Hospital at Netley. The floor of each ward is extended 8 ft. beyond the front wall, so that through doors at the centre the beds can be wheeled in and, if desired, left there during inclement weather under a covering of striped canvas stretched across to steel poles. In order that all the patients shall equally enjoy a beautiful view the six pavilions, each containing twenty beds, are placed in a circle facing south. Behind these are arranged twenty-two other buildings for the staff and general administration, including a very up-to-date operating theatre, mess-rooms, kitchen, store-rooms, dispensary, bed and sitting-rooms for the resident medical officers and the matrons and cubicles for fifteen sisters and V.A.D. nurses. Gas radiators and slow combustion stoves are used for heating, and the buildings are electrically lighted.

PROPORTION BY VOLUME.

Stress in Concrete.	Cement.			Sand.			Coarse material.			Cement.			Sand.			Coarse material.			Cement.			Sand.			Coarse material.		
	1	2	4	1'2	2	4	1'5	2	4	2	2	4	2	2	4	2	2	4	2	2	4	2	2	4	2	2	4
	Pounds per square inch.			Pounds per square inch.			Pounds per square inch.			Pounds per square inch.			Pounds per square inch.			Pounds per square inch.			Pounds per square inch.			Pounds per square inch.			Pounds per square inch.		
Direct compressive stress ...	600			650			700			750			750			750			750			750			750		
Extreme flexural compressive stress in beams ...	600			650			700			750			750			750			750			750			750		
Shearing Stress ...	60			65			70			75			75			75			75			75			75		
Grip or adhesion between concrete and steel bars, hooked at both ends ...	100			100			100			100			100			100			100			100			100		
Grip or adhesion between concrete and steel bars, otherwise effectively anchored at the ends ...	60			60			60			60			60			60			60			60			60		
Tensile stress ...	Nil			Nil			Nil			Nil			Nil			Nil			Nil			Nil			Nil		

Increased compressive stress is permissible in the core of a pillar suitably hooped.

ER WAREHOUSES, ABERDEEN.

tensive warehouses have just been completed at the Stoneywood Paper Mills, Aberdeenshire, the construction being on the Considère system of patent concrete armourings. Owing to a serious fire the old warehouses had been cleared away and the new buildings designed of great height and erected entirely of reinforced concrete, to minimise the fire risk. The walls, beams, columns, floors, and roofs are entirely of reinforced concrete on the above-named system. Plans were prepared by Mr. H. MacLennan, of Messrs. Jenkins and Marr, architects and civil engineers, Aberdeen.

The dimensions of the new warehouse are 221 ft. by 210 ft., and is two storeys in height, with four light wells in the centre. The ground floor has an area of about 5,100 square yards, and is used for store for finished paper, and for packing and dispatching, with the necessary accommodation for offices, loading docks, and other arrangements. The first floor has an area of 3,800 square yards, and is used exclusively for hand overhauling and packing, with necessary office and store accommodation. It is served by two electric hoists and several staircases. The roofs are flat and covered with natural rock asphalt.

Features of the architects' designs are the four light wells in the interior of the building which give abundance of light to all parts of the warehouses, special use being made of the clerestory windows to light the ground floor. Even with very little direct sunshine the ground floor has no dark corners. The steel windows are continuous in all the walls, thus giving the maximum of light.

In fitting up the new warehouses, the heavy steel shutters were supplied by Messrs. A. L. Gibson and Co., Twickenham; the armoured doors by Messrs. W. R. Platt, Ltd., Manchester; the windows by Messrs. F. Braby and Co., Ltd., Glasgow; electric lifts, Messrs. W. R. Platt and Co., Ltd., Leicester; and safe doors, Messrs. Hobbs and Co., London.

SURFACE FINISHING FOR CONCRETE.

On the cost, appearance, and wear-qualities of various methods of surface finishing for concrete has been collected by the Committee on Masonry of the American Railway Engineering Association. The inquiry was based on the following terms:—

What methods of finishing surfaces of concrete work have you used? Give particulars of each method used.

State the object desired in finishing and results obtained as to appearance and wearing qualities.

State the cost of the work per square foot (labour and material) for each method.

Please state your opinion as to the manner of finishing a concrete structure.

Do you believe the concrete surface should be left untreated, or should it be scraped, or treated with an acid?

Is it your experience that where the surface of concrete is treated it is more susceptible to discolorations from the sun and the weather?

Remarks.

The following reply was contributed by Mr. L. Stuart, Chief Engineer of the Great O. System:

Two methods: One, rub surface



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upon removal of forms; second, bush-hammer the entire surface.

Under method No. 1, where forms can be promptly removed, excellent finish may be had by rubbing the fresh concrete with a wooden block, using enough water to keep the surface saturated while rubbing is being done. When surface has become hard, after general irregularities have been removed with chisel or bush-hammer, entire surface may be rubbed with cement or carborundum bricks, the surface being kept thoroughly saturated with water. To insure uniformity of colour, grout wash may be applied while the rubbing is being done.

Under method No. 2, the entire surface may be dressed with bush-hammers, operated by hand or by air, all form marks and other irregularities being removed, except the construction joints. This method is not desirable, however, unless the concrete is very dense and excellent quality, for the reason that exposure will result in final damage to the surface.

(2) The purpose of treating the surface of concrete is to improve the appearance of the work. The wearing qualities will not be affected favourably or adversely by being finished according to method No. 1. The surface may be seriously affected where method No. 2 is resorted to, especially if the quality of the concrete is not first class. Concrete which has been dressed or bush-hammered is less impervious to moisture, which in freezing weather will cause the surface to scale.

(3) The cost of finishing the surface by method No. 1 depends largely on the care exercised in casting. If the surface is reasonably smooth and the rubbing is done promptly before it becomes hard, the cost should not exceed 1c. per square foot. The cost of bush-hammering will vary from 3c. to 3½c., depending on how the same is done.

(4) In our opinion, the surface of a concrete structure, where the forms have been properly constructed, should not be treated, except to remove the lipping caused by the joints in the forms. The natural surface with good forms, and when properly spaded, we believe will be more durable if left untreated.

(5) From recent examinations of several large structures, where certain portions were treated and others left untreated and which have been exposed to the weather for periods ranging from four to eight years, it was found that the natural surface of the concrete is not as susceptible to discoloration from smoke and weather as surfaces that have been bush-hammered, the same being true in the case of discoloration due to seepage of water through construction joints of porous portions of the structure.

(6) In our judgment, the surface of poor concrete should not be treated, as the surface obtained in casting is more impervious to moisture than if treated. The absorption of moisture and its liability of freezing may in time injure poor concrete seriously.

NEWS ITEMS.

War Bonus for Builders' Labourers.

Builders' labourers in the Birmingham district are to receive a war bonus of a halfpenny an hour. This decision has been arrived at as a result of negotiations between the Birmingham Building Trades Employers' Association and the National Union of Builders' Labourers. The bonus will be paid as from October 24, and will continue for three months after peace has

been declared. The masters have offered the bonus to all sections of the building trade having an agreement with their association, and it has been accepted by the labourers and the navvies. The other sections have the offer under consideration, and in all probability it will be accepted by the men.

Lecture on St. Sophia.

Professor F. M. Simpson, F.R.I.B.A., will deliver a public lecture at University College on "St. Sophia, Constantinople, and the Mosques of Constantinople and Brusa," at 5.30 p.m. on Thursday, October 28. Admission to this lecture will be by ticket, which may be obtained gratis from the secretary of University College on application, enclosing a stamped addressed envelope.

Girls' Industrial Home, Ipswich.

Extensions to the Girls' Industrial Home, Ipswich, which have been opened by the Bishop of Suffolk, comprise a large entrance hall with matron's office, board-room, staff-room, store-room, class and sewing-room, schoolroom, three dormitories, staff bedrooms, and bath-room with four baths. Mr. Henry J. Wright, M.S.A., is the architect.

Waterproofing Foundations.

We learn that additional plant has recently been installed in the Harrogate electricity station, and that after excavations had been made there was trouble with running water. "Pudlo" was then incorporated in the cement as a waterproofing medium, with excellent results. Although there is a stream in close proximity the interior of the building is perfectly dry.

Housing Schemes Authorised.

It is understood that the Local Government Board have given authority for the preparation of four further town planning schemes under the Housing and Town Planning Act, 1909. Schemes are authorised to be prepared by the Corporations of Croydon, Mansfield, and Nottingham, and the Urban District Council of Seaton Delaval. They relate to areas of about 800, 3,300, 500, and 2,400 acres respectively.

Housing Scheme for Dalmauir.

At Clydebank Dean of Guild Court last week, plans were passed for the erection of eighteen tenements, consisting of 108 dwelling-houses, by the Dalmauir West of Scotland Estate Company, Ltd. The bulk of these houses are to be of three apartments, and all will have bathroom accommodation, the cost of building being estimated at about £30,000. At present this firm is constructing 230 houses in Dalmauir, the two lots forming parts of a large scheme undertaken by them for the housing of the workers of Messrs. William Beardmore and Co., Ltd.

Peterhead Master Builders' Association.

The annual meeting of the Peterhead Master Builders' Association was held in the Town House, the President, Mr. Alexander Fordyce, slater, in the chair. The abstract of accounts was submitted and approved, and the following office-bearers were elected for next year: President, Mr. James Cran, painter; vice-president, Mr. John May, joiner; committee—Messrs. A. Ferguson, jun., painter; William Hadden, builder; William Ruddach, plumber; William Shand, plasterer; James Taylor, builder, and A. L. Williamson, blacksmith: secretary and treasurer, Mr. A. Clark Martin, solicitor. The retiring president received the thanks of the association for his services during the past year.

SOCIETIES AND INSTITUTIONS.

Law and Engineering.

On the 4th inst., at a meeting of the Society of Engineers (Incorporated), Mr. Sydney G. Turner, A.M.Inst.C.E., Barrister-at-Law, read a paper entitled "Law and Engineering—Some Points of Contact." The general object of the author was to show that in almost every branch of engineering practice the province of the engineer and the lawyer overlapped, to advocate the establishment of a periodical meeting, open to the members of both professions, at which subjects of common interest could be discussed. For this purpose a brief survey was made of the principal branches of engineering, and in regard to each illustrations were given of such subjects by way of suggestion. The subjects of the giving of expert evidence, the duties of the engineer when acting as arbitrator, and in connection with the preparation of contracts and certificates were first dealt with generally. The author then dealt with municipal engineering, and pointed out that municipal engineers had a special interest in law, inasmuch as their work consists almost entirely in the administration of Acts of Parliament. The problems raised for the engineer and lawyer in connection with modern traffic conditions and highway construction were next indicated; while the latter part of the paper dealt in turn with points concerning gas engineering, water engineering, and electrical engineering respectively. In the section dealing with municipal engineering, the special topics selected were sewerage and drainage, and the execution of works of private street improvement. In regard to the former, the decision of the House of Lords in the case of The Wood Green Urban District Council v. Joseph was discussed; and in regard to the latter the author dealt more particularly with the duties of the engineer in connection with the apportionment. In the section dealing with water engineering, the question of underground supplies was suggested as a subject for discussion. In conclusion, the author expressed the hope that in the course of the discussion opinions might be offered as to the desirability of establishing some such meeting as was advocated in the paper.

Scottish National Building Trades Federation.

Delegates from various parts of Scotland attended the annual meeting held at Glasgow of the Scottish National Building Trades Federation. It was shown that the building trade was one of the industries seriously affected by the war. The report pointed out that in many districts building operations had been almost entirely suspended, and the Board regretted that these conditions would in probability become more general as the war continued. There was, however, a widespread necessity for further building and with the cessation of hostilities might hope for a rapid revival in the trade. Mr. Henry H. Spittal, Glasgow, was elected president for the ensuing year. Questions dealing with the reinstatement after the war of apprentices serving in the Army and the employment of ex-union labour were fully discussed. Officers for the ensuing year were appointed as follows: President, Mr. Henry H. Spittal, Glasgow; senior vice-president, Edward Bruce, Edinburgh; junior vice-president, Mr. George Rome, Kilmarnock; and a board of eighteen members; secretary and treasurer, Mr. Thomas Ferguson, solicitor, 123, George Street, Edinburgh.

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THE ARTISTS' RIFLES.

The chief work of the Artists' Rifles is to train officers—a fact which is not so well known as it might be. No Territorial corps has a finer history. For nine years in succession they proved themselves, at the Royal Naval and Military Tournament, the champions in bayonet fighting, first of the Auxiliary, and afterwards of the Territorial, Forces. In 1905 it was suggested that the winners of the Army and Navy bayonet fighting competition should have a special combat with the winners of the Auxiliary Forces competition—the Artists'. The Artists' won.

The corps was sent to the Western Front last autumn. Sir John French, however, established them at headquarters to form a school of instruction, and there the men, after special training under war conditions, were gazetted to different regiments in the firing line. Eleven members of the corps have been mentioned in despatches, and seven have been awarded the Military Cross for "conspicuous gallantry and devotion to duty," whilst all have gained the praise of their superior officers.

The total number of commissions gained by members of the Artists' exceeds 1,700, and out of this number more than 500 have been gazetted to Regular regiments. At the start (according to Sir John French's despatch of February 2, 1915) the training school in France was to turn out officers at the rate of seventy-five a month. This has since been increased to 100. It must be remembered that those men are gazetted from the School of Instruction alone, and that many commissions are gained by men in England.

The Third Battalion of the Artists' Rifles is in training at a picturesque Essex camp under Lieutenant-Colonel Shirley, an instructor at Sandhurst for five years, assisted by a staff of officers, many of whom have seen service in the present campaign. The men go through an extremely interesting course of training. There are special courses in field engineering, signalling, map making, and the machine gun under experts in the different subjects. It is the tradition of the Artists' that all its officers and all its N.C.O.'s shall pass through the ranks of the corps.

The corps is open to educated men of all professions and pursuits. The connection between the architectural profession and the Artists' is well known, and there are members known in art, music, and literature, commercial men, engineers, famous sportsmen, and men from overseas, who, in pre-war days, were prospectors, miners, ranchers, and fruit-farmers.

At the corps' headquarters, in Duke's Road, Euston, the recruits are prepared for camp life. There are capable officers and N.C.O.'s, and the newly enlisted man attends a course of lectures and is quickly versed in the art of drilling.

The stay in London is quite brief, but by the time the recruit joins the battalion in camp he knows all the rudiments of drill, and is able in a short time to delve further into the mysteries of a soldier's training. The camp is never unpleasantly overcrowded, for the obvious reason that men are constantly being gazetted to other regiments. It is a difficult matter to regulate the supply and demand, but Colonel Shirley has apparently succeeded to a high degree. No man receives useless training, and so soon as he is efficient he is permitted to take his departure in order to

accept a commission. Trained as a soldier first and as an officer afterwards, becomes a man who is sought after by commanding officers with vacancies in their commissioned ranks. The name "Artist" is a magic word: it is the "open sesame" to many a military door that would otherwise be closed. And this is only natural. Out in France and in the Dardanelles Artist officers are winning honour for themselves and honour for their regiments, and their men will follow them anywhere, for an Artist appreciates a soldier's difficulties and knows exactly what he has to endure.

Application for a War Bonus.

An application has been made to the North Staffordshire Building Trade Federation for a war bonus of 10s. per week for all trades affiliated to the Federation, the reason for the request being stated as "the abnormal increase in the cost of living." In reply the secretary of the North Staffordshire Master Builders' Association wrote as follows: "Your application for a war bonus has been fully and carefully considered by this association, and they, whilst in sympathy with the request, feel that they would not be doing their duty to themselves in granting it, having regard to existing contracts, increased price of materials, and the state of the building trade in this district, which has entailed upon employers heavy losses. In these circumstances, the association consider that although the cost of living may have been increased owing to the war in which this country is unfortunately engaged, labour should bear its due share of the burden. The question is now in abeyance."

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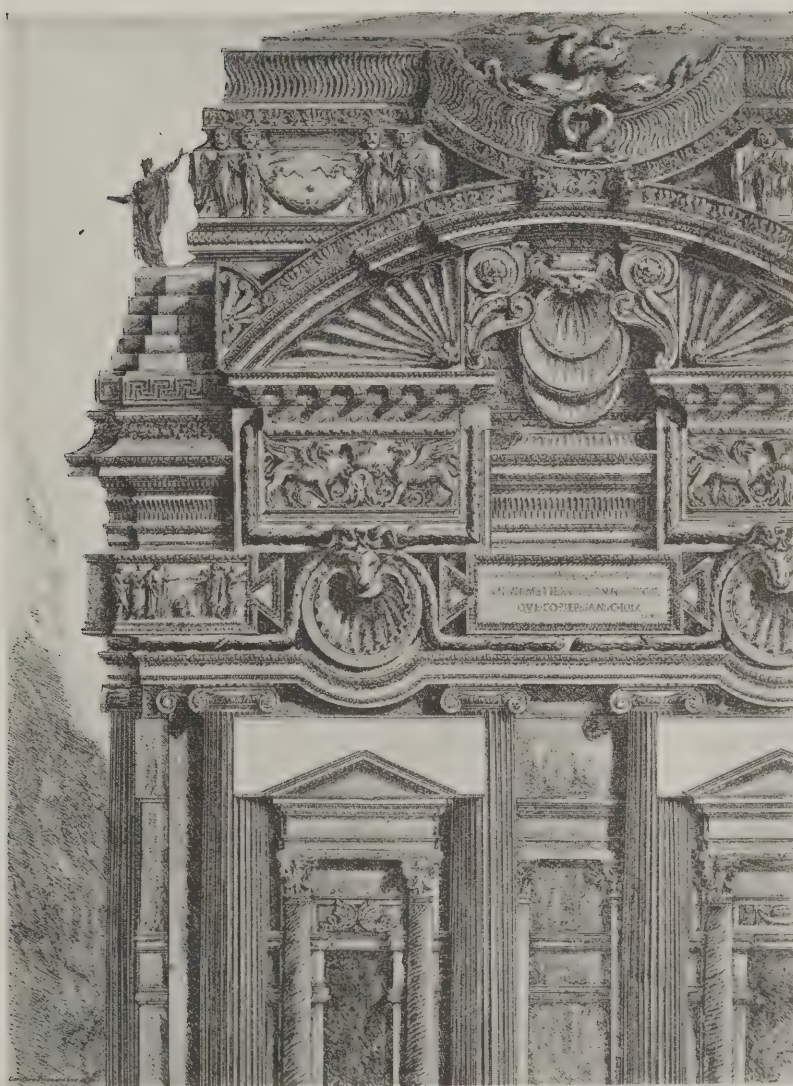
SOUTHWARK STREET, LONDON, S.E.

THE ARCHITECTS' & BUILDERS' JOURNAL.

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No. 157.



COMPOSITION OF ANTIQUE FRAGMENTS.

(From Piranesi.)

THE ARCHITECTS' & BUILDERS' JOURNAL.

OCTOBER 20, 1915.

TOTHILL STREET, WESTMINSTER.

VOLUME 42. No. 1085.

EDITORIAL.

A NEW complication has been added to the already sufficiently complex drain or sewer question. As will be seen from the case of the Mayor of the City and County of Kingston-upon-Hull v. The North-Eastern Railway Company, reported in another part of the present issue, the new point is, roughly speaking, whether a private or local Act can alter the position created under the Public Health Act. For the decision in this case we must wait, judgment being reserved. So much expensive and, on the whole, indeterminate, litigation has arisen with respect to the definitions of drain and sewer—a drain being within the responsibility of private ownership, and a sewer coming within the duties of a local or public authority—that some clear clue to the maze has been long desirable, but seems impossible of exact formulation because the factors in the problem are apt to be widely variable.

In some instances the experts are equally divided as to whether, in a given instance, the subject of litigation is a drain or a sewer, and this, surely, is a vexatious puzzle that ought to be solved once for all. But how? Since the problem arises from a divided responsibility that cannot be strictly defined, a rough-and-ready solution would be to place sole responsibility upon one party; and since the public authority is necessarily responsible for the trunk system, the public authority is clearly indicated as the proper depository for the whole burden, which, however, would be so enormous as to stagger the wealthiest corporation.

Moreover, it would be in many ways in the highest degree inconvenient to all parties to invest a public authority with such absolute and plenary powers. There would ensue thereon an irksome interference with private rights that the community would hardly tolerate, a prescriptive uniformity of system and materials that would be unfair in its incidence, untoward with respect to ingenuity and inventiveness, and an uneconomical application to particular and often unsuitable circumstances of a generalised system. Above all, the sewers rates, already in many cases extravagantly high, would go up enormously. Whether this undivided responsibility would retard or encourage building, is for that reason problematical. As the law at present stands many an owner hesitates to build because of the enormous cost of connecting his drains from a site remote from the main sewer. He would cheerfully connect at the public expense; but the public would strongly object, and either his scheme would be forbidden under the option which the authority would certainly acquire, or, alternatively, the rates would

rise so prodigiously as to prevent building by making it an unprofitable speculation, and so the argument runs round in a vicious circle.

We must rule out, therefore, the universal solver of making the public authority solely responsible for all drainage, and thus disposing summarily of the crux of the problem by rendering it a matter of complete indifference whether in any particular instance it can be proved by ingenious argumentation that a drain is a sewer or that a sewer is a drain. It remains, therefore, to discover, if possible, some less drastic solvent. If this is only to be obtained by the slow process of filtration through the law courts, the remedy may be ultimately efficacious but it will be certainly very costly. Nor will it be substantive. Its effect can only be to teach people the wisdom of constructing their drains in such form as to render their recognition as drains beyond dispute by the most subtle legal mind; which achievement would be equivalent to working a miracle.

Some assistance and relief might be given to the architect and the building owner by the authoritative issue of diagrams showing clearly what is and what is not a drain, conformity to this guidance carrying exemption from further liability. Even public or local authority should be compelled to issue such instructions, and to reject schemes in which they are infringed. That course, however, would not prevent extension of a trouble with which architects are quite competent to deal. Litigation usually arises with respect to the repair or renewal of old drains constructed before litigation had begun—of sorts.

St. Vedast, Foster Lane, which has been so often threatened with destruction, is, after all, to be spared to us. It stands directly in the way of the much needed new thoroughfare that had been planned to run from Newgate Street to Liverpool Street, and at first the fear arose that not even one of Wren's most beautiful steeples could be allowed to outweigh the advantages of the scheme that necessitated its demolition. Now, however, it is stated that, the scheme having been revised, St. Vedast's is no longer threatened. This concession is partly due, no doubt, to the fact that, since the old General Post Office was pulled down, the steeple of St. Vedast has become much better known, thousands of more or less worthy citizens becoming then for the first time aware of its existence. To see it is to love it, more especially since, within recent years, the admiration for Wren's work has grown steadily with the public

ovement in taste, which, again, has been coincident with the perception that classical architecture, with its serene simplicity and direct appeal, makes a much more definite mental impression, and a much more rational means of developing the æsthetic sense, than the vagaries and mystifying complexities of the ædual manner.

It appears that the late Mr. William Willett, who died on March 4, at the age of fifty-eight, has left an estate amounting to £557,150. In ordinary circumstances we should not have thought the accumulation of wealth a fit subject for editorial comment; there is an important distinction to be drawn between mere successful trading upon ordinary lines and the prosperity that has awarded steadfast faithfulness to a not ignoble ideal. Mr. Willett was inspired in effect if not by actual inspiration by the motto inscribed on the device which Walter Crane designed for the Architectural Association—"Design in truth, build in truth." He was always sound in faith, and the fact that his loyalty to it did not leave him in poverty and neglect, but that, on the contrary, it made him more than half a millionaire, is only an instance of the poetic justice that is with all too seldom in real life, but is at once a spur to emulation, and a proof that honest sincerity in art and craft of building is still occasionally if not invariably successful in the commercial sense.

Last week's air raids on London have given fresh impetus to the rather voluminous discussion on the question of liability for the damage done in these numerous outrages. Who is to pay for the damage done to the landlord or the tenant? Much depends on the terms of the lease, in which—save only in those of the most recent drafting—there is naturally no consideration of such a contingency as injury or destruction by enemy aircraft. Everything depends, therefore, on whether the provisions of a repairing covenant can be so construed—"twisted" is perhaps a more significant word—as to saddle the one or the other party with the responsibility. A tenant of one of the large London estates writes in a letter to *The Times* that "it would appear to be in fact that the usual covenant inserted in London leases throws the whole burden on the tenant and completely exonerates the landlord." This may be true, but it is nevertheless ridiculous; for, legal technicalities apart, surely there is a manifest injustice in making a tenant responsible for circumstances over which he has no control, and imposing upon him the burden of making good the damage caused to another man's property by the common enemy.

It is averred by another letter writer, that, in common with other tenants, he has received a notice from his landlord holding him (the tenant) responsible in case of raid by aircraft, for any damage done to his fittings, for the complete restoration of his property internally, and for rent during the time his premises may be untenable. This means that the tenant must insure the landlord's building and its contents, in order to be on the safe side, are there any instances taking out special policies themselves, it follows that the insurance companies are making a double profit, which, in the aggregate, will amply cover their losses from the raids. It is suggested that a short Act of Parliament to set the matter on a more equitable footing should be passed; and in our view this object could only be satisfactorily achieved by making the Government responsible for the damage that their measures of defence have proved inadequate to prevent. This is a view, however,

upon which at the present juncture we would by no means insist. It would impose on the State a burden that were better distributed among the people through the agency of the insurance companies.

Commenting on probabilities respecting the rebuilding of Belgium, a newspaper writer very naturally takes into account the strained relations that will assuredly tell heavily against the eventual reinstatement of German commerce with Belgium and other civilised countries. While Germany's dark deeds are a matter of living memory, trading with her will never be voluntary on the part of humane and honourable nations. At the same time, it is merely prudent to remember that in matters of business sentiment soon yields to more material considerations, and that if the Germans are able to offer better bargains—or what appear to be such—than their trade rivals, this, and not animosity, will ultimately become the dominating factor of the situation. A very proper caution upon this point was advanced by the Belgian authors of the valuable articles on "The Rebuilding of Belgium" which appeared originally in this Journal, and are now available in pamphlet form. The point that must be kept constantly in view is that in commercial warfare we must not count upon sentiment to help us very much, except as a lubricant for the machinery of commerce, which we must be careful to perfect if we are to prevail.

We are much gratified to find that the pamphlet on "The Rebuilding of Belgium" is attracting widespread attention. Its utility has been generally recognised in the Press, and inquiries for it have reached us from so far afield as Canada. For instance, the editor of the "Canadian Lumberman," Toronto, writes: "I note that you have recently published a brochure upon the rebuilding of Belgium. This was recently referred to in the Weekly Bulletin of the Canadian Department of Trade and Commerce. I would like very much to secure a copy of this book, so as to reproduce any parts of it which are of interest to Canadian lumbermen." Again, the Canadian Trade Commissioners at Leeds writes: "About the middle of August, various newspapers gave publicity and comments upon a pamphlet written by 'a Belgian contractor,' having reference to the future rebuilding of Belgium and the opportunities which would be afforded for British manufacturers and traders to secure trade arising out of these circumstances. As the subject is one which is of much interest to timber exporters in Canada, I referred to this brochure in one of my reports." Many other letters of similar purport having reached us from various parts of the Empire, we feel fully justified in drawing the inference that British and Colonial manufacturers and traders are quite alive to the importance of taking time by the forelock, and of immediately laying plans for meeting such demands as those that are set forth in the pamphlet, in which the conditions necessary to a successful business campaign in Belgium when the war is over—or, rather, as soon as the Germans have been cleared out of the country they have so ruthlessly destroyed—are very frankly as well as very clearly set forth.

In the "Glasgow Herald" we note a paragraph that should be of interest to architects who have maintained since their student days at least a nodding acquaintance with geology. "A large piece of stone," it is stated, "was being converted into a circular block, and a part was being detached to get the exact width required. When the piece was dislodged, a cavity was found in the larger stone large enough to contain a man's hand, and with a thick coating of fine dust inside."

The cavity was of a dagger nature, extending well into the stone, and so near the rounded surface that the block has had to be discarded." It is suggested that "geologists might be able to explain" the cavity, and, the matter possessing an obvious practical interest, we have asked the opinion of a geologist, who reports as follows: "In the place where the cavity was found there may have been, originally, an aggregation of some of the more easily decomposed constituents of the granite. The 'thick coating of fine dust' found in the hole might, in that case, be part of the decomposition product of those minerals. Another possible explanation is that, during the cooling of the magma from which the rock was formed, some gas may have been included, making a hole in the rock." It may be assumed that the rather vague expression "dagger nature" refers to the shape of the cavity, which we take to be narrow and tapering.

HERE AND THERE.

HELMETS, shields, body armour, grenades—these we know to be a reversion to the usages of antiquity, and Architecture at the Front would appear to be in very much the same category. Our wonderful fellows in the trenches with their "Liberty Hall" and "The Snuggery," their "Bond Street" and "Park Lane," have almost made us believe that the underground havens of troglodytes of the first line are really quite palatial. But the real thing is otherwise, though Tommy can make the best of everything in this War. Here is an account from the life. It is written by Mr. W. H. Ward, whilom architect in being and author of those two delightful volumes on the Renaissance in France, but now Second Lieutenant in the West Yorkshire Regiment. From "somewhere in Belgium" he has been sending a most interesting record of his experiences, and in the current number of "The Architectural Association Journal" I find this breezy account of house-building at the Front. "Yesterday," he says, "was a quiet day on the whole, and we spent it in preparing to carry out a battalion order that officers should live with their companies. We set two platoons available to work building a mess room and officers' quarters near the company huts. It was amusing enough, and people at home would laugh at our primitive architecture. The nucleus of the mass is a large crate with an extension much larger than itself of rough stakes forming an L with it. Round the stakes is some wire-netting, which H—— acquired somehow, and against this is piled a wall of turf sods. The roof, about 4 ft. high, consists of oil sheets and canvas. H——, B——, and I had a very agreeable dinner in it in the evening. I had also superintended—more or less—the erection of two blocks of officers' quarters. They are built of turfs; one is placed against the wall of a brick shrine which faces on to a lane at the top of the field. But the art of turf-building is still in its infancy with us, and one of the walls collapsed before reaching the eaves level, and never received its roof of waterproof sheets. My other building was more successful. By dint of constant supervision and a good deal of work with my own hands, I got a double-fronted villa finished by tea-time. It is built of turf, the walls rather wobbly till strengthened by stakes, and has two cells about 2ft. 6 in. and 3 ft. wide respectively, and 6 ft. long. It has a wall at the west, the windy quarter, but none at the east. The roof of my half, the narrower one, is made of two sheet-iron smoke shafts stolen from my tobacco-drying factory, and the roof of H——'s half out of a loose door stolen from the same place. One's ideas of property are sensibly affected by war, I fear, and after all we have as much right to consideration as an unknown Belgian who has run away! Well, it is the funniest and quite the smallest house I have ever inhabited or am likely to inhabit till I reach my last resting place. It has many

advantages. It is well ventilated and completely fireproof, if not absolutely weather-proof. It is spacious enough to lie down in and sit up in, as I am now doing, and it enjoys a glorious view of the rising sun, the red-roofed barn of the nearest farm and a considerable stretch of plain and the tower of —, but I must tell what the tower is of! Its chief drawback is that there is no room to put anything down, and when I undress all I can do with my clothes is to put them on the top of me. I was forgetting, there is a little space in the roof where I bestow my pack and haversack. My revolver and Sam Browne belt and a few other articles occupy a few spare niches at the head of the bed, and a convenient ledge of turf gives accommodation for a candle and a box of matches." Who, then, shall say that wattle-and-daub is an art of the past? The fact is, this War is not only reviving the skill of the armourer and the neat art of lobbing bombs, but it is also going the right way to turn estimable Fellows of the Institute into Ancient Britons. Turf-building at the Front is the Grand Manner is obviously the next stage in the development of Architecture at the Front.

A colleague, "Nemo," who filled this page on behalf some weeks ago, set up a comparison between the delights of the smoky chimney and the smoke stove. "Our soldiers went out to fight for 'Heard and Home,' but not for stove and tenement," said he. But now comes a correspondent who wants to know how the Canadians stand in regard to this—Canadian who "have never known a home with a hearth, whose visions to memory most dear are centred round the crackling, roaring stove." And forthwith he proceeds to give us the poetic rendering:—

O Spirit of the Northland, that speaks to us to-night,
Return again and bring us new dreams of past delight,
And now the vision changes, the winds are loud and shrill,
The falling flakes are shrouding the mountain and the hill,
But safe within our snug cabane, with comrades gathered near,
We set the rafters ringing with "Roulant"
"Brigadier."
And thus with song and story, with laugh and jest and shout,
We heed not dropping mercury, nor storms that howl without,
But pile the huge logs higher till the box-stove roars with glee,
And banish spectral visions with Chanson Normande.

This is surely the same jolly spirit that makes a happy family even in the support trenches; a Canadian version of Marmion—

Heap on more wood, the wind blows chill—
though what exactly a "box-stove" is like I cannot tell.

After a recent visit of the Zeppelins to London the German report made mention of guns under the cover of St. Paul's. Mr. Mervyn Macartney is a fountain-head of information in this matter, and in reply to my inquiry he says it is true there is a great gun under cover of St. Paul's, namely, the architect to the Dean and Chapter; he, however, makes a point of avoiding the cathedral at night. Perhaps, therefore, the Germans are referring to the canons in residence?—and can establish a military relation between a great architectural work and a minor ecclesiastical canon. But I remember that a German official eye might have been upon this modest paragraph, and remembering that "kultur" does not include humour under its beneficent wing, I hereby solemnly affirm that this is a joke.

UBIQUITY



L'ARC DE TRIOMPHE DU CARROUSEL · PARIS

NINETEENTH-CENTURY FRENCH ARCHITECTURE.—XVI.

DRAWN BY F. JENKINS.



• COMPOSITION OF DETAIL •
L'ARC DE TRIOMPHE DU CARROUSEL, PARIS

NINETEENTH-CENTURY FRENCH ARCHITECTURE.—XVII.

DRAWN BY F. JENKINS.

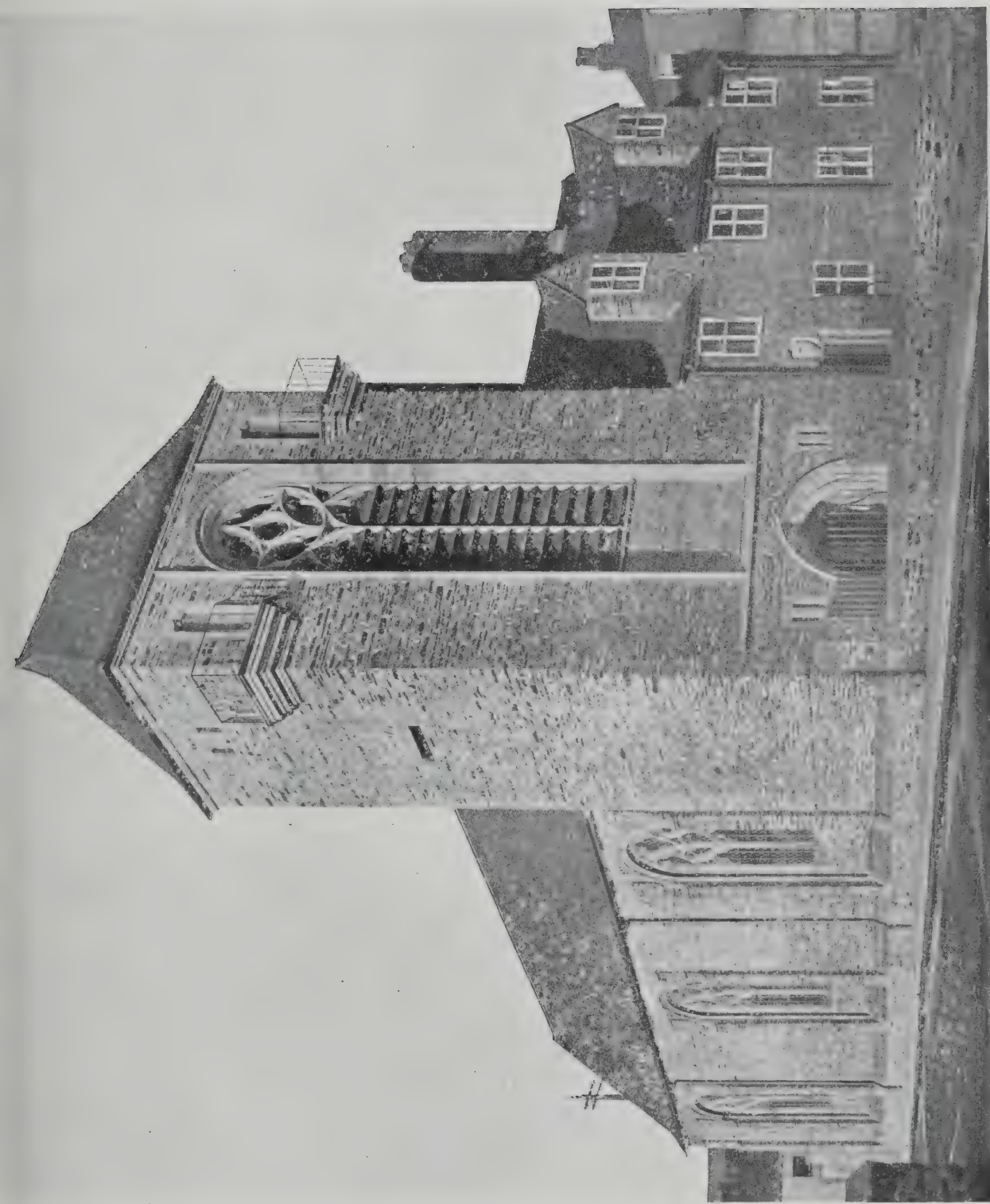


Photo: Cyril Ellis.

CURRENT ARCHITECTURE (SERIES II.). XLVIII.—CATHOLIC CHURCH AND PRESBYTERY, RAMSEY, ISLE-OF-MAN.

G. GILBERT SCOTT. F.R.I.B.A. ARCHITECT.

UNIVERSITY OF ILLINOIS
LIBRARY
JUL 10 1968



Photo: Cyril Ellis.

CURRENT ARCHITECTURE (SERIES II.). XLIX. — CATHOLIC CHURCH, RAMSEY, ISLE-OF-MAN: INTERIOR
LOOKING EAST.

G. GILBERT SCOTT, F.R.I.B.A., ARCHITECT.

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SMALL HOUSES OF THE LATE GEORGIAN PERIOD (SERIES II.). VII. NORTHFIELD HOUSE, HENLEY.

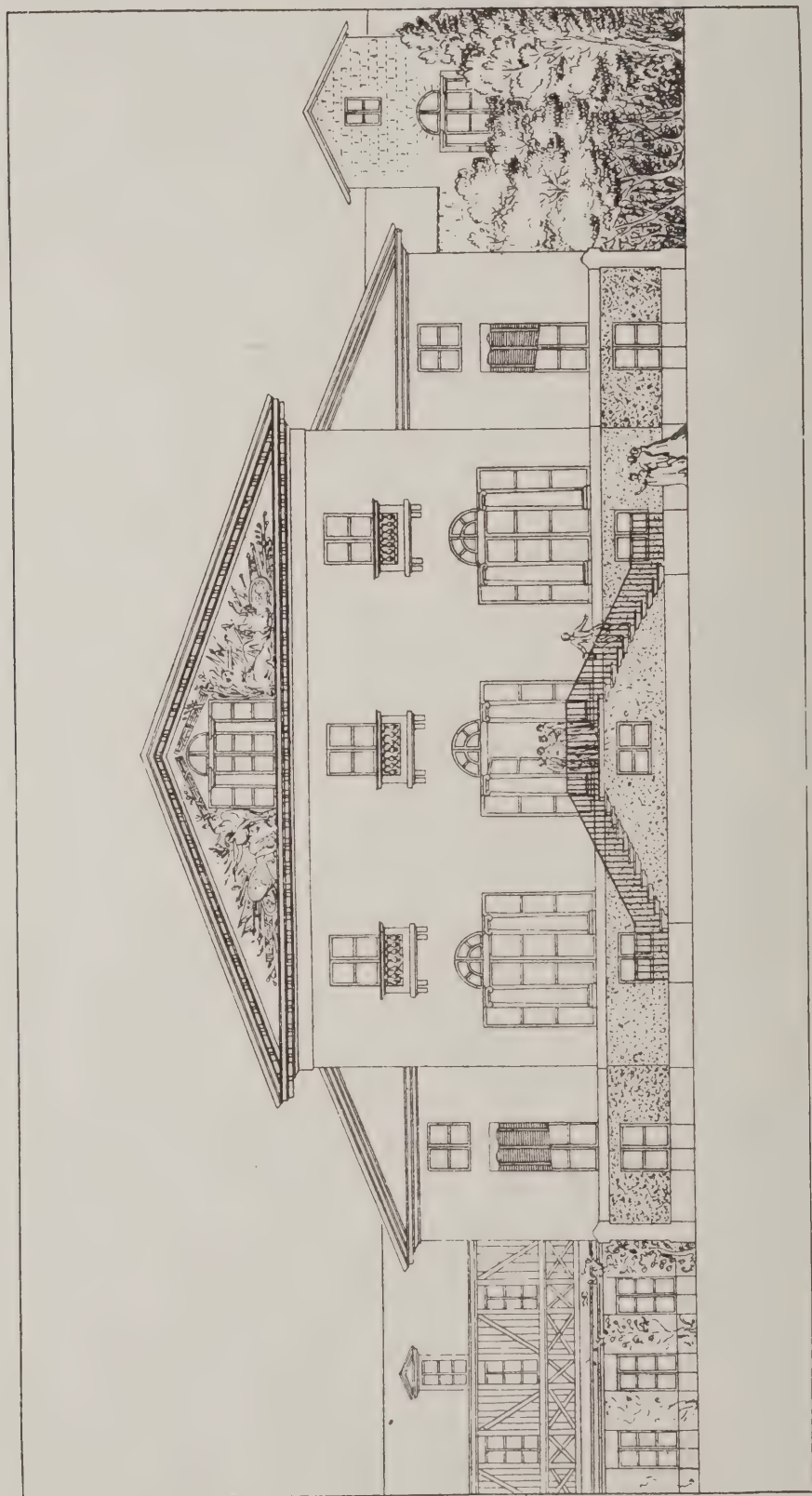
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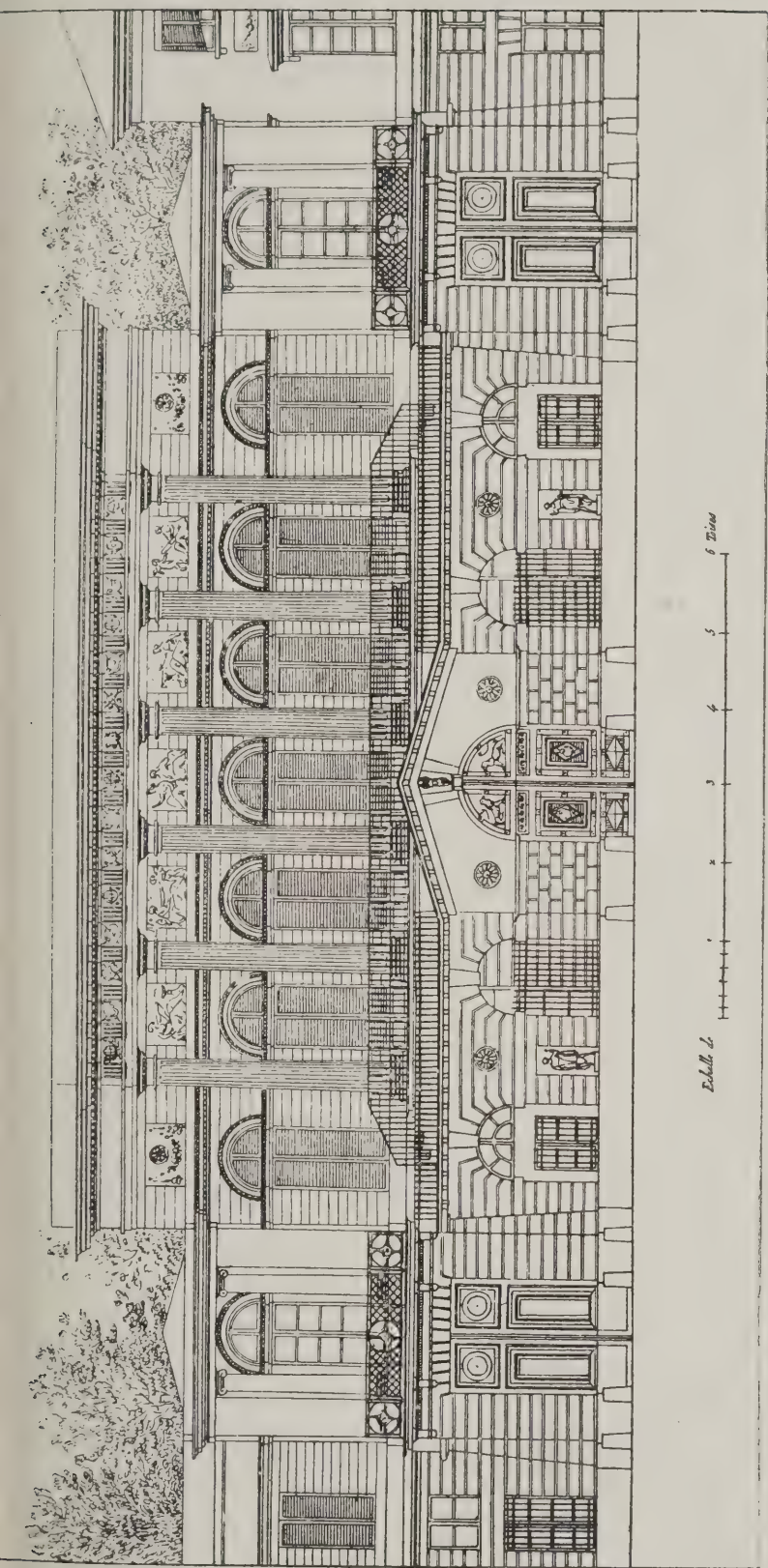
TABLETS AND INSCRIPTIONS. XV.—AT KIDLINGTON, OXFORD.

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Maison Hosten, Rue Saint-Georges. Le Doux, Architect.



Maison Saint Foix and Carenne, Rue Basse du Rampart. Brognard, Architect.

DESIGNS FROM KRAFFT. XVI.—TWO HOUSES IN PARIS.

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THE PLATES.

Arc du Carrousel, Paris.

SOME particulars of this are given in the article on the next page. The drawings we reproduce are by Mr. F. Jenkins, of the Liverpool School of Architecture. The Arc du Carrousel was regarded as the best and most tasteful monument of its kind and there can be no doubt that it influenced the architects in their original design for that most magnificent of all the Napoleonic monuments, the Arc de l'Étoile.

Catholic Church and Presbytery, Ramsey.

This building stands on an exposed site facing the sea. It is not orientated. The external walls are low, the outer thickness being of rubble (obtained from old buildings demolished on the site), and the inner thickness of smooth local bricks; within the arch these latter being limewhited instead of painted. The stone used for the church windows, doorways, and arches, etc., is Bramley Fall. The floors are covered with greyish-red sand-faced tiles. The interior of the church is kept plain and simple, except at the (quasi) east end, where a coloured and gilded triptych gives a centre of interest. The altar and reredos are of Forest of Dean stone. On the (quasi) south side are the Lady chapel, baptistry, vestries. At the (quasi) west end is a choir vestry under the tower arch. The internal length of the church is 76 ft. 6 in., and the width 22 ft. There are no aisles. Since the photographs which were reproduced were taken, a set of Stations of the Cross, carved in wood and coloured and gilded, have been added. The benches shown in the interior view are temporary. Mr. G. Gilbert Scott, F.R.I.B.A.,

of London, was the architect. The contractors were Messrs. Sherwin and Son, of Boston, Lincolnshire. The triptych was made and carved by Mr. G. Ratcliff; the pictorial panels were painted by Miss Burlison, of Hampstead; and the remainder of the colouring and gilding was executed by Mr. G. Tosi.

Northfield House, Henley.

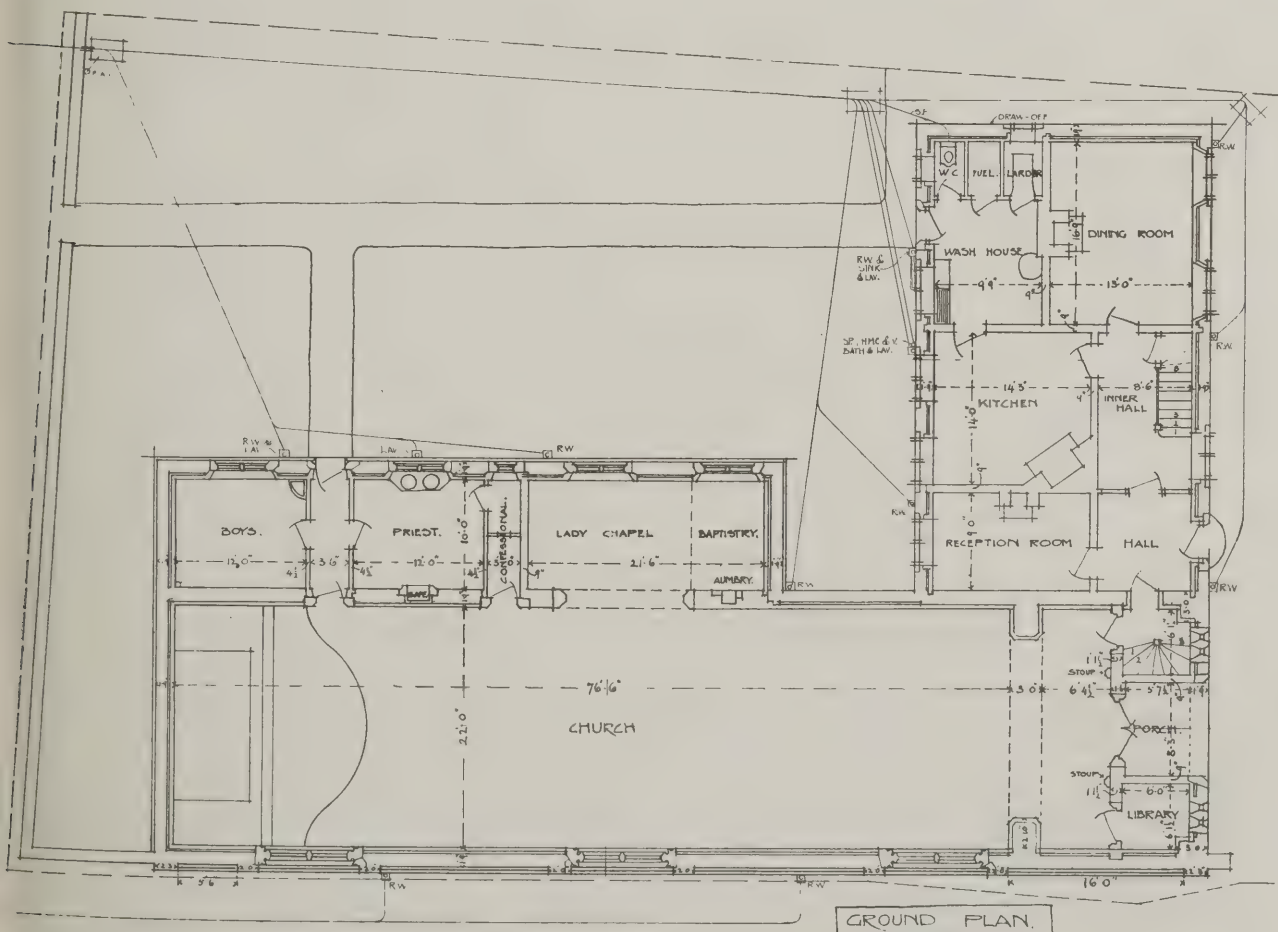
The charm of this house is its simple composition and pleasant setting. The cornice line running unbroken from end to end holds the whole long range of windows together, while the pedimented centre, with its porch and high railing, focuses the interest in the design. The house is stuccoed.

Wall Tablet at Kidlington.

The seventeenth-century character of this design is very strongly marked. The carved ornament around the panel is bold to the point of coarseness, but the lettering is in "the good Roman manner." The shield and crest are too pronounced to be pleasing: something much smaller would have been an improvement.

Two Houses from Kraftt.

Le Doux was a very piquant designer of the late eighteenth century in France, and there is a distinctive character, delicate and fresh, about all his work. The Maison Hosten is a representative example. It sets the model for that class of work which in later years was so successfully developed in England by Nash and his contemporaries. The Maison Saint-Foix and Carenne, by Brognard, gives evidence of the same influence that inspired Le Doux, but it is earlier in type. Both alike, however, bear the stamp of good character, and as compositions they offer many suggestions for modern buildings.



CATHOLIC CHURCH AND PRESBYTERY, RAMSEY, ISLE OF MAN.

G. GILBERT SCOTT, F.R.I.B.A., ARCHITECT.

THE ARC DU CARROUSEL, PARIS.

AMONG the many Napoleonic war monuments in Paris, the Arc de Triomphe du Carrousel, commemorative of the campaign of 1806, has a peculiar interest, by reason of its intrinsic qualities and, no less, its historical associations. The main lines of the design, we feel, owe so much to the Arch of Constantine in Rome as to diminish considerably our interest in the structure as the original work of Percier and Fontaine; but the detail is marked by that refined character of the best work of the French Empire style

Palace. (The Tuileries were fired and destroyed by the Communists in 1871.)

As an example of the application of sculpture to architecture the Arc du Carrousel is particularly successful, the sculptured figures, marble reliefs, and carved ornament being blended with consummate art. Ramey, Deseine, Cartellier, Clodion, and Esparcieux were the sculptors engaged on its embellishments, the chief of which are the panels depicting scenes of the wars—The Battle of Austerlitz and the Capitulation of Ulm on one side, the Conclusion of Peace at Tilsit and the Entry into Munich on the other, with panels on the return faces representing the Entry into Vienna and



ARC DE TRIOMPHE DU CARROUSEL, PARIS: VIEW LOOKING TOWARDS CHAMPS ÉLYSÉES.

PERCIER AND FONTAINE, ARCHITECTS.

which is so pleasing, and the effect of the monument is heightened by the colour of the different marbles used for the columns and friezes, the whole being exceedingly harmonious and elegant.

Its present position, on one side of a very large open space that has been formed in front of the Louvre, gives to it a rather stranded appearance, quite different from what must have been the case when the arch was erected in 1806-1816, a piquant foil to the façade of the Tuileries; the more interesting is it, therefore, to turn to the unique photograph reproduced on the opposite page, showing the Arch in its relation to the

the Conclusion of Peace at Pressburg. Lemot carried for the summit a chariot, in front of which were set a trophy, the famous bronze horses of St. Mark of Venice. The horses were fixed in position on April 25, 1807, and remained there for eight years. In 1815 the Allies claimed them, and Venice received again these precious relics of art which she had possessed since the fifth century. In 1828 B. Clodion sculptured a new quadriga in place of the one which was erected, with a figure representing the Restoration and horses conducted by winged figures of Peace, it is this which exists to-day.

SOLDIER-ARCHITECT ON FOREIGN SERVICE.

TH twelve months' service or more behind him, the soldier-architect in these days is somewhat prone to dwell on the past—that past before the War, when architecture seemed the only thing in the world worth troubling about. He pictures himself travelling up to London by the underground train from the suburbs, sauntering along to the members in the Temple or Gray's Inn, overhauling his correspondence, and finally settling down to drawing-board with the tools of his craft strewn haphazardly around. In this reflective strain he follows the events of the day—the interviews with the peripatetic traveller with a patent building speciality, the visits to the telephone, the visit of the indeterminate architect who cannot make up his mind whether he preaches "Tudor" or "Georgian," or whether he will have a building at all, the luncheon interval (welcome to the early closing down of the office, and the return to the suburban home. Thus musing, the soldier-architect finds himself thinking, almost involuntarily, "How dull!" and he is surprised to remember that as precisely his mood early in that month of August when the War-cloud burst. "How dull!" the civil life did seem dull when there was man's work to be done with bayonet and rifle. Small wonder that hundreds of young architects rushed to the colours. There was a chance to shake off the sedentary life, with the prospect of a little excitement thrown in. "Architect," said an enthusiastic young assistant in those days, "is a dull business—at least, that's what I have all been saying for years. Here's a fine opportunity for a change. I'm off!" And some hundreds of architects were off with him. Some are in Flanders, some in the Dardanelles, others in Egypt, India, and other possessions; and some, alas, have made the sacrifice. But some—let us hope many—will come back, and with them they will bring a mind enriched with the impressions of architecture seen in

other lands. For though he has said in his haste that architecture is a dull business, the soldier-architect soon realises that this is mere self-deception—that architecture is one of the very few things that matter, and that life without it is worse than blank. What mental refreshment it is, after a hard day's march, with little or nothing of interest encountered on the way, to look at last on a goodly building! The sight of a lofty spire, a great colonnade, a graceful dome—all offer much consolation to the architect-soldier whose military duties have called him to a strange land. The architect who can remain immune from the fascination of his own art is no architect at all. Who, indeed, being interested in architecture, can possibly help making a mental note of all he sees? If only to criticise, one must look around at the buildings which rise up on all sides. If a column is only half a diameter more in height than it should be the defect is apparent at once to the practised eye, even if one is struggling along beneath the crushing weight of full pack and rifle.

So it is interesting to speculate upon the effect of the War on architecture. That a greater restraint is likely to be characteristic of future work is a reasonable supposition. But what is the style going to be?

Architects among the troops will have taken professional advantage of the opportunity that has brought them to France, Belgium, Egypt, the Dardanelles, and elsewhere, and they must be constantly gathering and storing up all sorts of details and impressions of a wide diversity of styles. When the War is over, and these men return to architectural practice, what is going to be the outcome of their experiences? How will they sort out their ideas when called upon to produce a design? Can they possibly remain true to their former ideals, or will they feel impelled to indulge in that wonderful architectural pot-pourri which will remain so vividly in their memory? A horrible vision of something pseudo-Neo-Grec-Art Nouveau-cum-Moslem rises in the imagination. Have we to suffer or are we to be spared? The future alone can show.

G. J. H.



THE ARC DU CARROUSEL AND THE FAÇADE OF THE TUILERIES.

SPECIAL LAW REPORTS.

Builders' Claim on Architect's Certificate.*Willcock and Co. v. Lady Burton and Others.*

October 12. Official Referee's Court. Before Mr. Pollock.

This was an action by Messrs. Henry Willcock and Co., builders, of Darlington Street, Wolverhampton, to recover the balance of £3,500 for building St. Chad's Church for the late Lord Burton, at Hornington, Burton-on-Trent. The contract price for the church was £19,559, but the claim represented extras for which an architect's certificate would be given. The defendants were Lady Burton, Mr. J. A. James, Mr. J. Gretton, M.P., and Mr. J. Lambrick, executors of the late Lord Burton.

Mr. Hudson, K.C., Mr. Disturnal, K.C., and Mr. Drysdale appeared for the plaintiffs, and Mr. Leslie Scott, K.C., Mr. Gibbons, and Mr. Bethune for the defendants.

Mr. Hudson, in opening the case, said the plaintiffs were well-known church builders, and they claimed upon two certificates given by the architect under a builder's contract. In 1904 Lord Burton decided to build a church at his own expense, and the designs were made by the well-known church architect, Mr. George Frederick Bodley. The designs having been approved, it became necessary to prepare estimates and other documents for a contract. Then it appeared that a Mr. Couchman, who apparently represented Lord Burton, desired to have his name inserted in the specifications for the purpose of giving him power to supervise the work. Tenders were invited, and that of plaintiffs being the lowest it was accepted. Mr. Grover was the quantity surveyor who prepared the quantities for the purpose of the tenders. Various modifications to the plaintiffs' tender had to be made to bring the price down to a figure which Lord Burton was prepared to pay. Lord Burton had in the meantime prepared the foundation for the church independently of the plaintiffs, and this somewhat delayed the work. The contract was entered into in November, 1906, and the contractors were only able to start for the first time in May, 1907. As soon as the work was started great difficulties arose with Mr. Couchman, who was engineer to the firm of Bass, Ratcliff, Gretton, and Co., as to the quality of the stone for the building, and that on two or three occasions stopped the work. Mr. Hare, Mr. Bodley's partner, had the immediate charge of the work, and he disagreed with Mr. Couchman in his condemnation of the stone, and these disputes resulted in difficulty and delay in building, as a fresh quarry had to be opened to procure the stone. Not only did Mr. Couchman assume great powers in reference to the stone, but he also made great alterations in the plans. The church was entirely of stone, faced inside and out, and he gave most extraordinary instructions as to how the work was to be carried out. He was an engineer, counsel remarked, and, he added, "the result was that it was an engineering instead of a church job." Matters were, however, smoothed over to an extent. Lord Burton died in February, 1909. Mr. Bodley died in the previous October. After Lord Burton's death difficulties were again raised, but ultimately the work was completed in May, 1910. It should have been completed by June 30, 1908. The contractors sent in a claim to the trustees for the interference as far as the condem-

nation of the stone was concerned, but with that part of the case the court would not be troubled. Mr. Grover, the quantity surveyor, took up the work of valuation for the purpose of the extras, and they amounted to £4,729. Mr. Couchman had been invited by Mr. Grover to attend the valuation, but he did not appear to have done anything. But directly the valuation was made Mr. Couchman began to raise difficulties. In the result in April, 1911, the plaintiffs obtained a certificate for £3,500, and upon that certificate the action was brought. It appeared that in the end Mr. Grover had revised his original valuation, and he reduced it from £7,429 18s. 8d. to £6,466 11s. 7d. The second valuation was made without any reference to Mr. Willcock. In the meantime the plaintiffs had been pressing for payment of £3,500 certified by the architect, but never a penny had they received.

Mr. Jas. Yeatman, stonemason in the employ of the plaintiffs, gave evidence, and said the way in which the church work was done was unusual, and had involved waste of material and additional cost of labour.

Mr. John Barnsley, builder, of Birmingham, who had had a great deal to do with church building, made an inspection of the church, and expressed an opinion that it was built in a most unusual manner.

In cross-examination, he said that the contract was an unusual one, and one under which he would not have worked. He had never seen a church built like that one.

Mr. Kenrick, Fellow of the Surveyors' Institute, and a member of the advisory committee on buildings and contracts, who had had a wide experience in ecclesiastical work, said, upon instructions, he visited St. Chad's Church, and saw at a glance that the work had not been carried out according to the contract. He had never before seen a church building carried out as this one had been; that the architect's description of it was that it looked like a painted board.

Mr. Hudson, K.C.: All the art had been knocked out of it, and it had been turned into an engineering job?

Witness: Quite so.

The hearing was adjourned.

Combined Drainage: Single Private Drain.*The Mayor, etc., of the City and County of Kingston-upon-Hull v. The North-Eastern Railway Co.*

October 13. Court of Appeal. Before the Master of the Rolls and Lords Justices Bankes and Warrington.

This case raised the important question of whether the main conduit pipe by which certain railway cottages at Dairycoates are connected with the sewer in Hessele Road, Hull, is a "single private drain." It was an appeal by the railway company from an order of Mr. Justice Sargant, in an action brought by the Mayor, etc., of Kingston-upon-Hull, for a declaration that they, as sanitary authority, were entitled to a sum of £91 13s. 9d. incurred in executing certain works in connection with the main conduit pipe.

Mr. Walter Ryde, K.C., and Mr. Konstam appeared for the appellants, the railway company, and Mr. P. O. Lawrence, K.C., and Mr. R. A. Glen for the respondents.

Mr. Ryde said the appeal was from an order in favour of the plaintiffs, by which

the execution of such work as then established as a charge upon certain railway company's premises. The was in substance one to recover the cost of making up a pipe or conduit in a street in Hull, and the question of whether the local authority were entitled (as the judge had held) to recover the cost of the work, turned on whether the pipe in question was or was not a "single private drain" within the meaning of a local Act. This was a private act which introduced new difficulties into the definition of those which existed under the Public Health Act. The Public Health Act always distinguished between a drain and a sewer. A drain was repairable by the owner of the house drained, a sewer by the local authority. A sewer was defined in terms wide enough to include any ground pipe ever constructed. The drain was everything that was not a sewer, and a drain had been defined as a pipe which drained only one house. Soon, however, a difficulty arose on account of houses immediately adjacent being drained in pairs by means of shaped pipes. Before the Public Health Act of 1890 the arms of the Y were but the leg of the Y was a sewer, and the local authority. There was a question as to whether that act applied to this case. As long ago as 1876 difficulties arose about the drainage of the cottages in question. At first an order was made that the railway company should connect the cottages with drains into the Road sewer, but that order was *ultra vires* so far as it related to cottages beyond the 100-ft. limit and was amended. The amended order never complied with in terms. The railway company did was to lay down the road between the cottages communicating with the sewer. To the Y connections were made, and the cottages accepted as compliance with the amended order. In addition there were pipes which carried off surface water. In 1890 the Public Health Act was amended by the Kingston-upon-Hull Corporation Act of 1903 (Section 49) it was provided that where two or more houses were connected with a single private drain, the drain conveyed their drainage into a sewer the corporation should have powers of compelling to repair costs in the Public Health Act of 1875. Section 19 of the Public Health Act of 1875 provided that the local authority should no longer apply to the railway company and that for the purpose of this section the expression drain included a "drain for the drainage of more than one house, whether owned or occupied by the same person or not." He submitted that a pipe which (like the main conduit pipe in question) was laid down under a dedication to the public had never been held to be a "single private drain." The judge had found that this street had been dedicated to the public, but that it was a "single private drain" notwithstanding. In this, according to the authority, the judge was wrong. Secondly, he submitted that the case was covered by a decision of the House of Lords, and that the plaintiffs were entitled to enforce the maintenance of an independent single private drain upon an owner who existed where the pipe in question was laid, the laying of which could have been enforced by the local authority.

Mr. P. O. Lawrence contended that the judge's decision was right as it stood.

At the conclusion of the legal argument the Court reserved judgment.

INQUIRIES ANSWERED.

Smoky Chimneys.

erring to a correspondent's en-
on smoky chimneys, in our issue
October 6, p. 154, Mr. H. Clifford
s, A.R.I.B.A., writes, "I have a
book on my shelves, 'Cause and Cure
Smoky Chimneys' (G. A. Foster),
shed in 1885 by Wyman and Sons,
1s. 6d. Needless to say some of the
ations are out of date, but the essen-
facts are doubtless as true to-day as
ere then, and possibly a later edition
een published."

Architects' Bookkeeping.

XANDER (Newport) writes: "With
nce to your recent articles on 'Arch-
Bookkeeping'—which, by the way,
e read with much interest—in what
should an account be rendered to a
? Several accounts I have seen
been almost an exact replica of the
ation you give for the 'Works-
er.' One of them filled three pages
olscap, the total amount of the
nt being just under £19! Others I
seen have been just a simple, 'To
es rendered etc., etc., 5 per cent. on
certificate, —; paid expenses, —,'
uld like to have your views on the
r and also those of your readers."
n reply to the above the author of the
es says: "The general custom is to
r a condensed bill. A full detailed
nt can be furnished at any time, when
red, by making a copy of the account
ring in the Works Ledger."

Claims on a Contract.

SCRIBER (Lancs.) writes: "(1) In a
ule of quantities there are a series of
duly priced out and amounting to
for work required in an oak staircase.
client decided to have this made by a

specialist instead of by the general contrac-
tor, and the latter now claims the sum of
£15, being the amount of profit he says he
would have made if he had been allowed to
make the staircase. Do you think his
claim is a just one? (2) In the schedule
there is an item of 421 lin. ft. of 12 by 6
purlins at 1s. 9d. per ft., equals £36
16s. 9d. In carrying out the work this was
altered to 11 by 4 purlins, which the con-
tractor has priced at 1s. 1d. per ft., but,
in addition, he claims 3d. per ft. for the
profit he says he would have made on the
original price of 1s. 9d. per ft. Do you
think his claim is a just one?"

—(1) I am of the opinion that the general
contractor is entitled to a profit upon
the amount actually paid to the sub-con-
tractor for the work in question (10 per
cent. is a reasonable allowance to make).
The whole amount included in the original
contract for the staircase should then be
deducted. (2) I presume the specification
or bills of quantities include the usual
clause as to the variations being measured
and valued at the rates on which the con-
tract is based, and in that case the price
the contractor has affixed to the 11 in. by
4 in. purlins (1s. 1d. per foot) is approx-
imately correct. His price for the 12 in.
by 6 in. purlins is 3s. 6d. per foot cube, and
the 11 in. by 4 in. must be paid for at the
same rate. His claim for an allowance for
loss of profit owing to the size being re-
duced from the larger to the smaller
scantling is inadmissible. A. G. C.

PALACE OF EDUCATION AT SAN FRANCISCO.

The buildings of the Panama-Pacific
Exposition at San Francisco do not as a
group equal those of some of the preceding
exhibitions in America, but there are some
designs of very striking character, pro-

minent among them being the Palace of
Education, illustrated below. Messrs.
Bliss and Faville, the architects, have
designed most of the buildings in the exhi-
bition, though the two most noteworthy
structures, the Tower of Jewels and the
Arches of the Rising Sun and the Setting
Sun, are by Messrs. Carrère and Hastings
and Messrs. McKim, Mead, and White
respectively.

THE WAR AND THE HOUSING PROBLEM.

Reviewing the work of the Glasgow
Dean of Guild Court during the past year
at the ordinary meeting of the Court
in the Burgh Court Hall, Lord Dean
of Guild Hedderwick pointed out that the
war had so affected conditions that this
year's figures could not compare with
those of the preceding year as advantage-
ously as usual. The decrease, however,
was not so great as might have been ex-
pected. To a large extent this has been
due to the increased requirements of
Government contractors, the School
Board, and the Corporation.

The number of linings had fallen to 381,
estimated to cost £816,636, against 542
linings costing £1,052,147 in the previous
year. In that £816,636 no less than
£733,842 was for new work and only
£62,794 for alterations and additions,
which was a remarkable feature under the
prevailing conditions.

In 1912-13 there was only one house of
one apartment authorised. In 1913-14
there were fifteen. In the past year there
were sixty-five. So long as such houses
conformed to the building regulations the
Court could not interfere. The objections
to such houses were obvious. The remedy
was not so plain. It was a somewhat



PALACE OF EDUCATION, PANAMA-PACIFIC EXPOSITION, SAN FRANCISCO.
BLISS AND FAVILLE, ARCHITECTS.

difficult problem. He regretted that the social condition was such as to make these houses inevitable.

And yet in large cities there were always likely to be a number of single persons who do not want more than one room. It was worthy of remark that the one-room houses authorised by the Court were all being erected by the Corporation. It had been found necessary to satisfy a legitimate demand for such limited accommodation. He hoped that the time was not so far away when the dangers and difficulties involved in the existence of one-apartment houses and house properties of four and five storeys high would be taken in hand and solved.

DOMESTIC HEATING AND NATIONAL ECONOMY.

A conference took place at the Heating, Lighting, and Cooking Exhibition, held from October 4 to October 9 at the Institute of Hygiene, and the opener of the conferences for the week was Mrs. Cloudesley Brereton, who lectured on "Domestic Heating—Health, Comfort, and Economy." Mrs. Brereton said that a process of taxation such as the National Budget would make absolutely imperative in each individual domestic budget would mean the drastic alteration of the whole scale of living; and that the mere cutting-off of any dessert excepting Sundays, or the wholesale abolition of some one luxury would not meet the case. There would have to be such a systematic retrenchment as meant planning life on an entirely different style and scale all round.

The speaker dealt with a series of problems, and showed in each case how modern systems of furnishing and modern methods of firing could solve them. She held that the immediate difficulties facing those housewives with incomes varying from £200 to £500 and houses of rentals varying from £30 to £100 should be met upon truly economical lines. She made a plea for the better furnishing of the average kitchen after the manner of the old Dutch kitchen familiar to us in pictures of the Dutch school, so that in the servantless house breakfast and middle-day dinner could at least be eaten in that room when coal and dust had been banished; for, she maintained, though there might be a prejudice against eating in the kitchen, it was "better to break down a prejudice than break down your wife" by overwork and fetching and carrying, and the lovely old gate-leg tables, oak dressers, and Windsor chairs of a bygone day which we now bought at fancy prices for our dining-rooms might well go back to the kitchen whence they came, and make that room a place of beauty as well as use.

Due economy, together with comfort and health, could be achieved by means which were shown in the exhibition—gas fires, cookers, and water-heaters, each having according to need attached to it taps, meters, thermostats, and every possible device whereby the gas could be kept under perfect control.

Dr. King Brown on Heating.

Addressing a large gathering at the Institute of Hygiene, Devonshire Street, W., on October 6, Dr. R. King Brown, M.D., D.P.H., said that whilst we heard a great deal of good advice on the subject of economy in these days of stress, there were two things in which it was necessary to economise with care. They were health and heating. It was above all things important to maintain health, and this should

go hand-in-hand with economy in heating and fuel. The heating of the body consisted of exercise and rest. After a period of exercise it was necessary to give the nervous system a rest by living in properly heated rooms. Heat was energy in the form of waves in the ether, and the reservoir of heat so far as our world was concerned was the sun. A peculiarity of the sun's was that it came only from one direction, and proper economy of heating necessitated the building of houses so as to utilise that fact.

In choosing a form of artificial heating it was wise to follow nature as much as possible. Thus the most healthy form of heating was by radiation combined with light in imitation of the sun, and the best form of such heating was the much-abused open fire, albeit combined with the most modern improvements. It was often complained that a fire only warmed one side of one whilst freezing the other, in that it was like the sun and promoted movement which with the consequent change of temperature was natural and healthy. The great evil of the open fire was the amount of smoke belched into the atmosphere, which was the whole cause of the London fogs. The person who could invent a stove which would consume its own smoke would not have to work again in this world nor, he thought, in the next, because of the great boon he would have conferred on humanity. The form of heating most nearly approaching the ideal of natural heating was the improved fire coke or gas, combining radiant heat and light with proper ventilation.

NEWS ITEMS.

Waterproofing a Swimming Bath.

A public swimming bath has recently been erected in Barrow-in-Furness, and we understand the borough engineer adopted the powder Pudlo for waterproofing it.

Change of Address.

Mr. Geo. P. Bankart has now removed his office and workshops from Baldwin's Gardens, Gray's Inn Road, W.C., to 48, Rathbone Place, Oxford Street, London, W. Telephone, No. 8799 Gerrard; telegrams, Ideology, Ox, London.

Royal Academy of Arts.

A course of ten lectures on "Anatomy" is being delivered on Wednesdays and Fridays, at 4 p.m., beginning on October 13, and ending on November 19, by Dr. Arthur Thomson, M.A., F.R.C.S., LL.D., Professor of Anatomy in the Royal Academy. It is announced that the lectures on painting, sculpture, architecture, and chemistry at the Academy are postponed till further notice.

Structural Engineering: Reinforced Concrete.

The advances made in structural engineering and the L.C.C. new Regulations for Reinforced Concrete having created a growing demand for young engineers and architects with practical training in the theory and design of structures, attention is directed to the facilities for the study of the subject which are provided on Thursday evenings at the L.C.C. School of Building, where the class is conducted by Mr. R. Graham Keevill, A.M.I.M.E., M.C.I.

Omagh's New Town Hall.

The new town hall erected in Omagh by the Urban Council at a cost of about £4,000 has been completed. The frontage of the new buildings is 47 ft., and they ex-

tend back a distance of over 160 ft. The main assembly hall is 85 ft. long, 20 ft. wide, and 28 ft. high, and fluted piers with Ionic caps and deeply moulded capitals are carried up the walls. At one end of the hall is a stage 18 ft. wide and 12 ft. high, the full depth of the hall, which will be covered up with a removable ornamental scene front. Behind the stage are dressing and retiring rooms, with a separate entrance from the yard. At the back of the hall is the balcony, and the curved front. The hall can comfortably accommodate 660 people. The Chamber is situated at the top of the stairs, and is 33 ft. long, 21 ft. wide, and 12 ft. high.

Royal Institute of the Architects, Ireland.

An ordinary meeting of the Council of this Institute was held at the Institute Rooms, 31, South Frederick Street, Dublin, on Monday, October 4, 1915, the President, Mr. R. Caulfeild Orpen, R.H.A., in the chair.

Before proceeding with the business of the meeting the President proposed the following resolution: "The Council of this Institute desires to place on record its sense of the great loss the Institute has sustained in the death of Mr. V. Lynn, President of the Institute for the years 1886-87-88. Mr. Lynn, during his long life devoted to the practice of the profession of his adoption, designed many important public and domestic buildings, which, both in Ireland and England, testify to his masterly qualifications. The following gentlemen were elected members: Messrs. W. Sedgwick Keating, William J. Doherty, and G. Hemmings Yeoman. A special meeting of the Council was arranged to discuss the question of architects' fees generally."

The Bath and Portland Stone Firms, Ltd. Directors' Report.

The directors' report on the Bath and Portland Stone Firms, Ltd., was signed by Mr. Isaac Sumson (chairman) and Mr. J. E. Henshaw, is as follows: "The directors herewith submit to the shareholders their fifty-fifth half-yearly report, and their statement of the company's accounts for the half-year ending June 30 last, as audited by the company's auditors, Mr. T. P. McNaught, chartered accountant, of London. After the payment of interest on the Debenture stock and providing for the remuneration of the directors and auditor, the net profit for the six months is £6,228 13s. 7d.; add balance of undivided profits brought forward, £4,196 12s. 6d., making a total amount available for distribution of £10,425 6s. 5d. The directors have declared an interim dividend of six months ending June 30 last, at the rate of 5 per cent. per annum, amounting to £5,677 10s., leaving a balance to carry forward to the credit of next account of £4,748 16s. 5d. The shareholders will readily understand that the general business of the company has suffered considerably from the effects of the war, but, notwithstanding the continuance of several important contracts in London and the provinces, the Portland section of the company's business in full operation, the directors are very gratified that the results of the half-year's trading enables them to declare an interim dividend at the rate of 5 per cent. per annum. The amount set apart out of the half-year's profit for reserve against depreciation is £10s. 8d., increasing the total amount to £148,669 18s. 11d., and the plant and machinery have been fully maintained."

ELECTRICAL NOTES.

Bastian Heaters.

spite of many other and abnormal activities which most electrical manufacturers have adopted temporarily, the output of forms of electric heaters and fires shows no diminution, rather the contrary. Not only are previous makers putting new types on the market, but new makers are springing up. It is shown that the demand for electricity as a fuel (if this is permissible) must be increasing considerably, and, of course, only at the expense of gas and coal heaters or fires. Against other makers, the Bastian Electric Heating Syndicate, 10, Aldour Street, W., has done a great deal to stimulate the popularity of electric heaters and fires, its system being based on the use of units consisting of special resistance wire inside glass tubes. What has in the past militated against electric heating was the relatively elaborate and solid design of the apparatus and the consequent high price. Amongst other heaters, however, we find apparatus of a simple and attractive design, at quite popular prices. Two such are the pyro-ring and the pyro-stove, which may be said to be electric heaters.

The pyro-ring is a small circular device of neat appearance, being only 6½ in. diameter. It takes 500 watts and is provided with a three-heat control, in the shape of three separate chain-cased connectors, which are corrugated so as to radiate heat as quickly as possible. The body of the ring is of aluminium, and the whole apparatus weighs only 3 lb. It is provided with three specially shaped feet of thick brass wire ending in smooth porcelain knobs, which prevent the scratching of polished tables, etc. At each side of the ring there is a coiled swing handle, which hangs clear of the body, and therefore does not get hot. The pyro-stove is a rectangular cast-iron apparatus, 12 in. wide by 13 in. deep, and standing on four legs. In the centre of the top, or hot plate, there is a circular well having a curved polished aluminium reflector, which are situated the heating elements, and whence the heat rises in a concentrated column. Three-heat regulation is effected by similar connections as in the pyro-ring, and apart from this the width of the hot plate permits of further regulation, so that the cooking utensils can be moved about in relation to the heat well. The apparatus, which weighs 22½ lb., is fitted with an earthing terminal.

L.C.C. Proposed New Regulations.

The General Purposes Committee of the London County Council propose the following new regulations: An inspection shall be made annually of the electrical and heating installations in premises in respect of which the Council has agreed to add a special cubical extent under section 17 of the London County Council (General Powers) Act, 1908. Arrangements shall be made for the use, under prescribed conditions, by electric lighting undertakers, of the Council's subways and the charges made in connection with such use shall be as follows: (i.) in respect (a) of the time for which any use is required for repairs, alterations, and laying, or for hanging pipes and wires, (b) of the opening or closing of a subway at unusual times, and (c) of additions to the space occupied by pipes or wires—the same as those prescribed in the bye-laws made under the London County Council (Subways) Act, 1893, by the Council on November 25, 1913 (p. 1184), and subsequently approved by the Board of Trade; (ii.) in respect of the use and supervision of pipes or wires existing in the subways on May 4, 1915—the same as those prescribed for existing works going to companies, bodies, or persons, other than water or gas companies, having power to break up streets, in table (2) of the bye-laws made under the London County Council (Subways) Act, 1893, by the Council on November 25, 1913 (p. 1184), and subsequently approved by the Board of Trade; and (iii.) in respect of the use and supervision of pipes or wires laid in the subways subsequently to May 4, 1915—the same as those prescribed for new works belonging to companies, bodies, or persons, having power to break up streets, in table (3) of the bye-laws made under the London County Council (Subways) Act, 1893, by the Council on November 25, 1913 (p. 1184), and subsequently approved by the Board of Trade. These arrangements should be of considerable advantage to electrical engineers.

These regulations, which are recommended as standing orders, were on the agenda for the meeting of the Council of Tuesday, October 19 (yesterday). It is further recommended that "In accordance with the award of the Board of Trade arbitrator of October 11, 1915, and as war wages and recognised as due to independent on the existence of the abnormal conditions prevailing in consequence of the war, the rate of pay of these wiremen is advanced to 11½d. an hour, with *pro rata* advances to clerks and assistants."

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MANCHESTER SOCIETY OF
ARCHITECTS.

In the Kalendar of the Manchester Society of Architects (Incorporated) for 1915-16 there is included a roll of honour containing the names of seven Fellows and forty-two Associates who are serving with His Majesty's naval and military forces. Of these we regret to see that Mr. George Barlow, Associate, has been killed in action at the Dardanelles, while Mr. Q. M. Bluhm, Fellow, and Messrs. J. M. Clarke and H. W. Price have been wounded. Further reflections of the war are found in the annual report of the Council and in the reports of the Students' Committee and the Education in Architecture Committee. The Council has passed the following resolution relating to the annual subscription of members serving with the colours: "That the annual subscriptions of all members actively engaged in His Majesty's naval and military forces be remitted for the period they are so engaged, and that they retain all the rights and privileges of membership during such period." The outbreak of the war, and the serious consequences entailed on the profession, decided the Council to abandon last year the customary annual dinner, and also to postpone the celebration of the Society's jubilee, which was attained on April 8, 1915. At the request of the R.I.B.A., a local Architects' War Committee has been formed, to act in conjunction with the principal committee in London.

Having been informed that proposals were under consideration for the alteration of the tramway lines in Albert Square and St. Peter's Square, and the erection of tram shelters, the Council passed a resolution, which had been sent to the Manchester Corporation, to the effect that, "on both æsthetic and practical grounds" the proposal "ought not to be carried out."

In the report of the Education in Architecture Committee it is recorded that a great number of students are serving with the colours, and this has, of course, lessened the competition for the various prizes. It was decided, on account of the war, not to ask gentlemen from a distance to come to Manchester to read sessional papers as in previous years, but several papers were read by members of the Society.

By the Competitions Committee it is reported that very few competitions in this district have called for much comment, and conditions of a more generally satisfactory character appear to have been more usual.

The president of the Society is Mr. F. B. Dunkerley, F.R.I.B.A. and its hon. secretary and treasurer is Mr. Isaac Taylor, F.R.I.B.A., with Mr. J. T. Halliday, A.R.I.B.A., as assistant hon. secretary, the secretary being Mr. Arthur S. Brewis, F.C.A., Canada Chambers, 36, Spring Gardens, Manchester.

Included in the Kalendar is a prospectus of the University of Manchester School of Architecture, of which the director is Professor A. C. Dickie, M.A., F.S.A., A.R.I.B.A. The objects of the courses are thus set forth: The courses are intended to meet the requirements of students who desire (1) to take a degree of the University either in the Faculty of Arts or in the Faculty of Technology; (2) to take the Certificate of the University in Architecture (the degree and certificate courses are arranged as a Junior Year, a Senior Year, and a Final Year); (3) to prepare for the

qualifying examinations for Associate of the Royal Institute of British Architects; (4) to take a course in architecture without proceeding to a degree or qualification; (5) to attend any of the special lecture courses in architecture, held at the University, or at the School of Technology, or at the School of Art; (6) to attend evening classes in the subjects of architecture and building construction, held either in the Municipal School of Technology or in the Municipal School of Art.

LONDON COUNTY COUNCIL
NOTES.

Regulations as to Reinforced Concrete.

The Local Government Board has allowed the regulations made by the Council on July 6, 1915, under Section 23 of the London County Council (General Powers) Act, 1909, with respect to the construction of buildings wholly or partly of reinforced concrete and with respect to the use and composition of reinforced concrete in such construction. The Board has fixed January 1, 1916, as the date upon which the regulations shall come into operation.

District Surveyors.

The Building Acts Committee have consented, under Section 142 of the London Building Act, 1894, to the appointment of deputy district surveyors in twenty cases. In order to fill temporary vacancies for district surveyors, they have appointed Mr. A. G. Morrice, district surveyor for Streatham East, to be interim district surveyor for Streatham West; Mr. W. R. Davidge, district surveyor for the district of Lewisham, to be interim district surveyor for the district of Woolwich; Mr. H. T. Bromley, district surveyor for Whitechapel, to be interim district surveyor for Bethnal Green West; and Mr. E. W. Knight, district surveyor for Bromley, to be interim district surveyor for Poplar All Saints. Each of the appointments dates from October 1, 1915, and will continue during the pleasure of the Council. The committee have adopted the course of appointing existing district surveyors temporarily to these positions, as they have thought it unwise to recommend the Council to appoint any new district surveyors during the war.

Technical Instruction Relating to the Gas Industry in London.

The Board of Education have forwarded to the Council a report on technical instruction relating to the gas industry in the London area, which deals with the extent to which use is made of the existing provision for technical instruction in the subject, and with the efficiency of the instruction given at certain institutions, and makes suggestions for the training of gas-fitters' apprentices and students of gas engineering and manufacture. The report does not call for any special action on the part of the Council at the present time, except in regard to the directions in which future developments should take place. It is understood that there is always a dearth of competent gas-fitters, and any schemes of technical training likely to improve the general efficiency are, therefore, most desirable.

A conference has been held between the Council's officers and representatives of the Institution of Gas Engineers, and the views of the advisory committees and governing bodies of various institutions interested in the matter have been stated. Detailed proposals for classes in gas-fitting for both junior and senior students will be

considered in connection with the arrangements for session 1915-16.

Selected List of Contractors.

The Building Acts Committee has made additions to the selected list of contractors to be invited to tender for work at the Council's educational institutions as follows: (i) Structural alterations, masonry repairs, cleaning and painting, drainage and sanitary work, not exceeding £10,000 value specified in each case—(i.) H. P. Rill, 24, Canning Road, Wealdstone, Middlesex (£2,000), also for temporary buildings; (ii.) Smith and Co., and Keble Head and Co., 6, Gray Street, Manchester Square, W. (£3,000); (iii.) J. A. Whitaker and Sons, 195, and 197, Epsom Court Road, W. (£1,000).

(2) Structural alterations not exceeding the value specified in each case—(i.) Robert Nicholls, Limited, Church Street, Finchley, N. (£3,000); (ii.) E. Peckham, 166, Hamilton Road, West Norwood, S.E. (£1,000); (iii.) Laphorne and Limited, Chantry House, 2, Ecclestone Street, Buckingham Palace Road, S.W. (£2,000), also for minor repairs, cleaning and painting.

(3) Minor repairs, cleaning, and painting, not exceeding the value specified by J. Kemp, 24, Sidney Road, Forest Hill, E. (£500).

(4) Heating work, not exceeding value specified—Thames Bank, (Bl friars) Iron Co., Limited, Upper Gro Street, S.E. (£1,000).

(5) Drainage and Sanitary work—son, White and Co., 47, Victoria Street, S.W. The names of J. Chessum Sons, Limited, F. and H. F. Higgs, Limited, and MacIntosh and Thorne have been substituted for those of J. Chessum and Sons, F. and H. F. Higgs, and MacIntosh, respectively, in the selection list of contractors to be invited to tender for work at the Council's educational institutions.

The Pennsylvania Station, New York

In connection with the article and illustrations which appeared in the Journal of October 13, readers will no doubt be interested to learn that 60,000 gallons of "R.I.W." waterproofing and protective paints and 250 tons of the waterproof compound Toxement were used on the work. The proprietors of these specialties (Messrs. Toch Brothers, of New York) in association with the Indestructible Paint Co., Ltd., of London) announce that owing to the growth of their business in this country, they have made arrangements for the manufacture of all their products with the Indestructible Paint Co., Ltd. and are therefore in a position to supply structural engineers and clients full of confidence both of their own and the latter's specialties.

The Star and Garter, Richmond.

In a scheme for the acquisition of Star and Garter Hotel, Richmond, permanent home for paralysed and disabled soldiers and sailors, a scheme which Her Majesty the Queen has the keenest interest, it was originally intended that the building should be adapted for this purpose, but it was afterwards found that it would be more economic to rebuild than to adapt the old building, and the plans of the new building are now being settled by the Committee of the British Red Cross Society, with the approval of Her Majesty the Queen. In the meantime the annexe is being fitted up as a temporary hospital, and when the building is completed the annexe will be rebuilt, thus forming a complete scheme.

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ANTIQUE MARBLE CANDELABRUM.

(From Piranesi.)

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EDITORIAL.

LONDON by night is just now not much less dangerous to get about in than it was when the link-extinguishers, of which examples remain to us from Georgian days (and nights), were of practical value. It is not surprising, therefore, to find that the R.I.B.A., doubtless after carefully balancing the advantages of conference (which maketh a wise man) against the risks from bombs and motor buses and cabs, have decided to cancel the programme of papers which had been arranged for next session, and to suspend evening meetings. Three o'clock in the afternoon instead of eight in the evening is to be the hour of meeting. Long before the war, we took leave to deprecate the latter hour. For if a member leaves his town office at five, he is likely to waste three hours. Even when the distance admits of his getting home and back again in the time, he will be very reluctant to undertake the journey; and if he goes home he may there and then be seduced to the view that it is a pity to miss his dinner for the sake of hearing a paper that would be exceptional if it were not lacking in "brightness." But, seriously, eight o'clock was a very inconvenient hour for many members. It was a democratic hour, however, which is more than can be said of three in the afternoon; but, before reverting to the former custom, it might be advisable to canvass the members on the question of general convenience, by no means forgetting that of the lecturers, who, while sometimes they have to travel long distances, and might therefore find some relief in the late hour of commencement, would get but little satisfaction from the correspondingly late close.

As for the papers, they will be greatly missed, in spite of all that has been said in disparagement of their subject-matter, and of the artlessness with which they are usually delivered. "You never miss the water till the well runs dry," and this close season will give members an opportunity of reconsidering the question under the chastening influence of sheer deprivation. When last the matter was under discussion, many of us must have felt that few if any of the papers read before the R.I.B.A. were so deadly dull as they were nearly all held to be by ungrateful hearers whose appetites in this kind had been pampered to satiety. These it will do good to go hungry for a while; they may return to the feast with a more wholesome zest, and with more of gratitude towards the providers. There is, one suspects, more than a little cant about the outcry against the papers; *nil admirari* being a perennial pose, regarded by the very young as a mark of distinction, but being in reality as common as ingratitude. Certainly it would be folly to demand from architects the grace and charm that could only

be expected at all reasonably from a man who made literary expression the chief study of his and who, moreover, having the defects of qualities, is fatally apt to put too much yeast in dough, which is as bad a fault as making bread heavy as lead.

Architects there are who are born stylists, they are, of course, as rare at least as the moor letters for whom the same claim can be confidently made. And, after all, your born stylist is apt to be only that and nothing more. Ruskin is not quite so far gone as that, but his name suggests itself in connection, and there can be but little doubt that he was often carried off his feet by the swift current of his overpowering eloquence. Humour suggests that if Ruskin's prose does not "smell of the lamp," it smells of the "Seven Lamps." We should have been more substantially indebted to him if he had given us more matter with less art. Reynolds, it has been said, got Burke to round off the periods in his "Discourses," which nevertheless jog on so smoothly enough in the pedestrian way. It is so when a reader of a paper aims chiefly at eloquence, indulges over-freely in mere indeterminate discussion, that he occupies time and attention to no purpose. As long as he refrains from "fine writing" and contents himself with the presentation in terms of some subject with which he is specially qualified to deal, he is secure of the gratitude of everyone who prefers substance to showy entertainment; and as it is upon the lines of substantiality that most of the papers read before architectural meetings are conceived and executed, the suspension of the ancient habit of paper reading will be a distinct loss to the profession; unless, indeed, the field shall ultimately be the more fertile for having been for a time lain fallow.

There will be, of course, eventually, a general revival of lecturing. In a manner of speaking, the habit is natural and hence ineradicable. It was at one time supposed that, everybody having learnt to read, and paper and print having become plentiful and cheap, public speaking would decay, and meetings would become rare. To some extent this anticipation has been realised; but, after all, men are by nature sociable and gregarious. They like to get together and talk to or at each other; and the fascination of personality is perennial. But the printed word cannot supersede the human voice, and does greatly extend its reach, increasing the strength as well as the area of its influence, deepening also the speaker's sense of responsibility because he is bound to shape his utterances with a consciousness that *scripta ferunt annos*. Publ.

much more than enlarge the speaker's public. instance, it greatly intensifies the interest himself and his output, literary or technical; it is certain that those who have listened to a course are exactly those who are most eager to see it when it appears in print, and to keep the record as a memento. On all grounds, we welcome the revival of paper-reading when the time is again ripe for it, while, however, we fully realise that its present suspension is upon all counts judicious.

School inspectors are no doubt in a position to give valuable advice on the details, major and minor, of school planning, decoration, and equipment. Their opinions in such matters, however, are always free from the professional bias for which allowance must always be made in weighing the evidence of any kind of expert witness. As a case in point, take the recommendation of a school inspector that pictures in schools should be hung low enough to be nearly on a level with the eyes of the scholars. That is sound theory, and it applies with full force to the pictures in a house. But when the inspector adds that as far as possible no picture should be placed on the wall at the back of the class, and suspects a certain degree of professional pretension, and confirmation comes in the further statement that "the pictures were there for the benefit of the children, and not for the room to look at for casual visitors." This is just the kind of obvious half-truth that is so much more misleading than an absolute fallacy.

Early this excellent inspector has fallen into the trap of professionalism. He is all for practical utility, although he is dealing with a question of aesthetics. His recommendation implies that school pictures are for use, not for adornment, and that needless decoration can have no detrimental effect on the minds of the children, who surely must occasionally get glimpses of the class-room as a whole, and who will carry into after-life this early impression of an overloaded front and a barren rear. It depends, of course, upon what is meant by the "pictures." If they are merely crude diagrams illustrating subjects in the curriculum, it would be better if they were kept in cupboards, for distraction when they were relevant to the subject-matter. If they are genuine pictures, they are there for the adornment of the room (not of one-half or one-fourth of it, or of whatever proportion the bare walls show in relation to the picture-wall), and their segregation would be fatal alike to their effect and to the concentration of the pupils upon their task, from which, it may be presumed, they are intended as a distraction. Where decoration is earned, harmonious arrangement, not bald utilitarianism, should be the superior consideration.

Of late we have found rather frequent occasion to remark, this matter of the interior decoration of schools has been, and is being, singularly neglected, and it ought ere long to be taken in hand with vigour and determination by people who are properly qualified to deal with a hideous enough as school-room walls are apt to be when they are left bare, or are hung with dingy maps, illustrating diagrams, or unnatural nature-study specimens, the case is worsened when they are adorned with a fortuitous assemblage of pictures which are ill-designed and ill-placed. Of sufficient importance in itself, this question of the decoration and adornment of schools is of larger importance as lying at the root of higher develop-

ments; for upon the democratisation of art and the diffusion of good taste depends in a great measure real progress in the higher reaches.

Congratulations to the Society of Architects on so excellent an acquisition to its Council as Mr. Edward Cratney, of Wallsend-on-Tyne. Mr. Cratney, who is still a very young man as successful architects go—he is but three-and-thirty—has nevertheless done an enormous amount of work, most of it, as illustrations in this journal have shown, possessing character and distinction. Articled to Messrs. Hicks and Charlewood, of Newcastle-on-Tyne, Mr. Cratney began practice in 1907 at Wellington Quay, and quickly made his mark in cottage design, for which he was awarded gold, silver, and bronze medals at the North of England Model Cottage Exhibition. He has also won many competitions for libraries and schools, and has built, besides innumerable cottages and several libraries, the laboratories for the Thermal Syndicate and a picture-hall at Wallsend. He has laid out several estates, and is the architect of the Newcastle Corporation housing scheme at Walker-on-Tyne. Mr. Cratney is a Licentiate of the R.I.B.A.

Fine character is happily not rare among architects; but the esteem in which the late Mr. E. R. Hewitt, A.R.I.B.A., was held by his friends, places beyond doubt his title to high rank in that category. He was, we are assured by one who knew him intimately, "a man of the very finest character—modest and unassuming and conscientious to a degree. I have been privileged to see a bundle of letters from men who knew him, and find that I was not alone in my admiration. For some years past he seemed to be killing himself with hard work; but yet at the age of sixty-three or thereabouts he gave up one evening a week to study reinforced concrete, attending the lectures at the Westminster Technical Institute simply because he thought it was his public duty to do so. Although bad or scamped work made him angry, he was invariably courteous, and treated his fellow-architects as men of the same high integrity as himself. Everyone respected him. Good designers, good builders, and good workmen admired him, and those who were fortunate enough to know him privately really loved him. We cannot," concludes our correspondent—and this note is a proof that we cordially agree with him—"lightly lose a man who raised his hat to the charwoman at his office, whose recreation was in delightful water-colour work, and who was yet a terror to jerry-builders." Mr. Hewitt was for more than thirty years a district surveyor in South London, and served as a member of the Practice and Science Standing Committee of the R.I.B.A. from 1902 to 1911.

Sir Edward Clarke, K.C., in his very laudable desire to give the Government and his country the benefit of his wisdom and experience as a publicist of repute, has thrown out several suggestions as to ways by which revenue can be raised. Some of these suggestions may be wise, but they all seem to us to be more or less fantastic—especially that in which he holds that it would be just and necessary to make a substantial levy on the accumulated wealth of our people. He estimates that such wealth is amply sufficient to pay four or five times over what the war is likely to cost. "Now," he says, in the old forensic fashion that was so successful with admiring juries, "there is one large part of that accumulated wealth which during the lifetime of its owner pays nothing at all to the National Exchequer. I refer to the enormous sum which is represented by

the stores of works of art, furniture, books, plate, china, glass, and jewellery which are to be found in the houses of the well-to-do people among us. The pleasure and comfort and the advantage in social position which man or woman derives from these possessions is as much an annual profit as the dividends would be if they were sold and the money invested in stocks or shares." Very ingeniously argued, but we fancy that a tax upon household effects—for that is what it would come to—would have far-reaching consequences on art, industry, and the general standard of living that could only be justified if the country were at the last gasp of financial stress; in which case the catalogue of objects drawn up by Sir Edward would have to be got rid of through sheer inability to pay the taxes on them.

HERE AND THERE.

WE at home have our "Eye-Witness," and during the past week he has given us, on behalf of the Home Office, another side-light on the recent destruction wrought upon London by the Zeppelins. Government Departments are without a soul, and so it follows that their reports on events fail to stir our hearts; frigidly careful, they are incapable of striking a vibrant human chord. The more grateful are we therefore to this observer who is officially permitted to tell us how it fared with our people and their metropolis when the murderers came stealing across the night. Five distinct areas were covered by the Zeppelins on this raid, and in one of these are two damaged business premises thus described by the Home Office writer: "The first of them is a large and modern building constructed of reinforced concrete and with a steel and concrete roof and flooring. Two bombs dropped in this building, one of them actually on the roof and one on the pavement immediately beneath the doorway. The bomb on the pavement appears to have exploded sideways; at any rate, the damage done, which consisted chiefly of broken glass and plaster, occurred mainly in the houses on the other side of the street. The bomb which dropped on the roof of the building itself did little damage. In the same area a bomb dropped on the roof of a small hotel, the ground floor of which was occupied as an office. In this case the strength of the building, which was an old one, was not sufficient to withstand the force of the explosion, and the whole of the hotel, which consisted of three floors of the building, was entirely blown up."

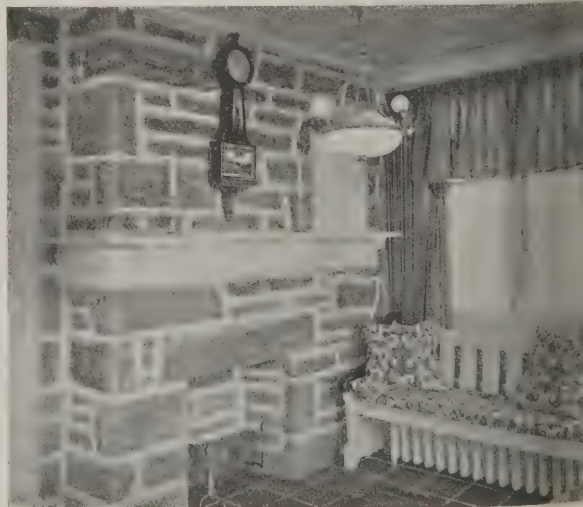
Here is a tale with a moral, and having had facilities for making a personal examination of the chief building affected, I may, without transgressing the Laws of the Censor, add a little comment on what my own eyes have seen. A large and splendid new office building is concerned, and the way it has stood the shock testifies in a remarkable way to the excellence of modern construction. At the time of the raid the façade was about half shrouded with scaffolding, and one effect of the bomb that fell in front of the main doorway was to shatter and shake most of this down, unveiling the building prematurely. The main force of the bomb was away from the new building, and one can see on the opposite side of the roadway how windows have been blown in, brickwork spattered with shrapnel, and stone sills and dressings splintered right up to the top storey. But there was sufficient force, too, against the new building to do a fair amount of damage. A fine pair of wrought and cast-iron entrance gates, costing £200, have been spoiled, shrapnel having torn its way through the wrought frame and shattered in part the cast-iron grilles and plaques of the gates. The stone carving around the opening has been deeply pitted in places, necessitating the insertion

of new pieces of stone and re-carving; the marble lining to the entrance hall has been shaken loose, the plaster frieze cracked. But the main structure of the building is unaffected. And the tribute to modern steel and reinforced concrete construction is still strikingly evidenced by a study of what happened from the falling of the second bomb on the building.

This second bomb, which fell immediately afterwards, hit the attic roof at the angle of a light area, went clean through a 12 by 6 joist, tearing away the flanges from the web like orange peel, and broke a hole in the reinforced concrete floor. The force of the explosion then appears to have spread off at a tangent. Pieces of shrapnel damaged the white-brick lining of the light area for a depth of several floors; a standing chimney shaft was shaken so severely that it will have to be taken down; windows on the staircase next the area were blown in and their frames broken and twisted; portions of the balustrade—1 in. square iron—were cut clean through, and other parts blown off; and stray fragments of the bomb made cavities in the floor surface. The force of the explosion must have been terrific, as one can realise when surmising the effect of it. But no less astonishing is the fact that this new office building withstood the shock. It is a steel-frame building with reinforced concrete floors. The explosion must have made it quiver, but the resilience about such a building which solid stone or brickwork does not possess, and as a consequence the structure remained intact. Floor upon floor one can examine, and no cracks are to be seen in the concrete. Nothing but a steel and concrete building could have withstood such a test, and it is fitting therefore to set the fact on record. The damage done was local damage and affected surface matters only. No harm was done to the main structure. By contrast we may turn again to the Home Office account of the other building struck in the same area. "In this case the strength of the building, which was an old one, was not sufficient to withstand the force of the explosion, and the whole of the hotel, which consisted of three floors of the building, was entirely blown up." Thereby hangs the moral.

I give below "the awful example." This is what has been brought about by those architects who vainly try to make educated men and women of the twentieth century fit nicely into the places of yokels and yeomen of the past. It will not do, this "quaint farthingale" of the past. Ledger doors, rough stone and brick fireplaces, Windsor chairs will not harmonise with polished Georgian tables, finger glasses, and little silver photographs in gilded frames.

UBIQ



THE RUSTIC FIREPLACE: WHAT IT HAS BECOME



MODERN AMERICAN ARCHITECTURE. XXIV.—MAIN PORTAL TO MACHINERY HALL, PANAMA-PACIFIC EXPOSITION,
SAN FRANCISCO.

CLARENCE WARD, ARCHITECT.

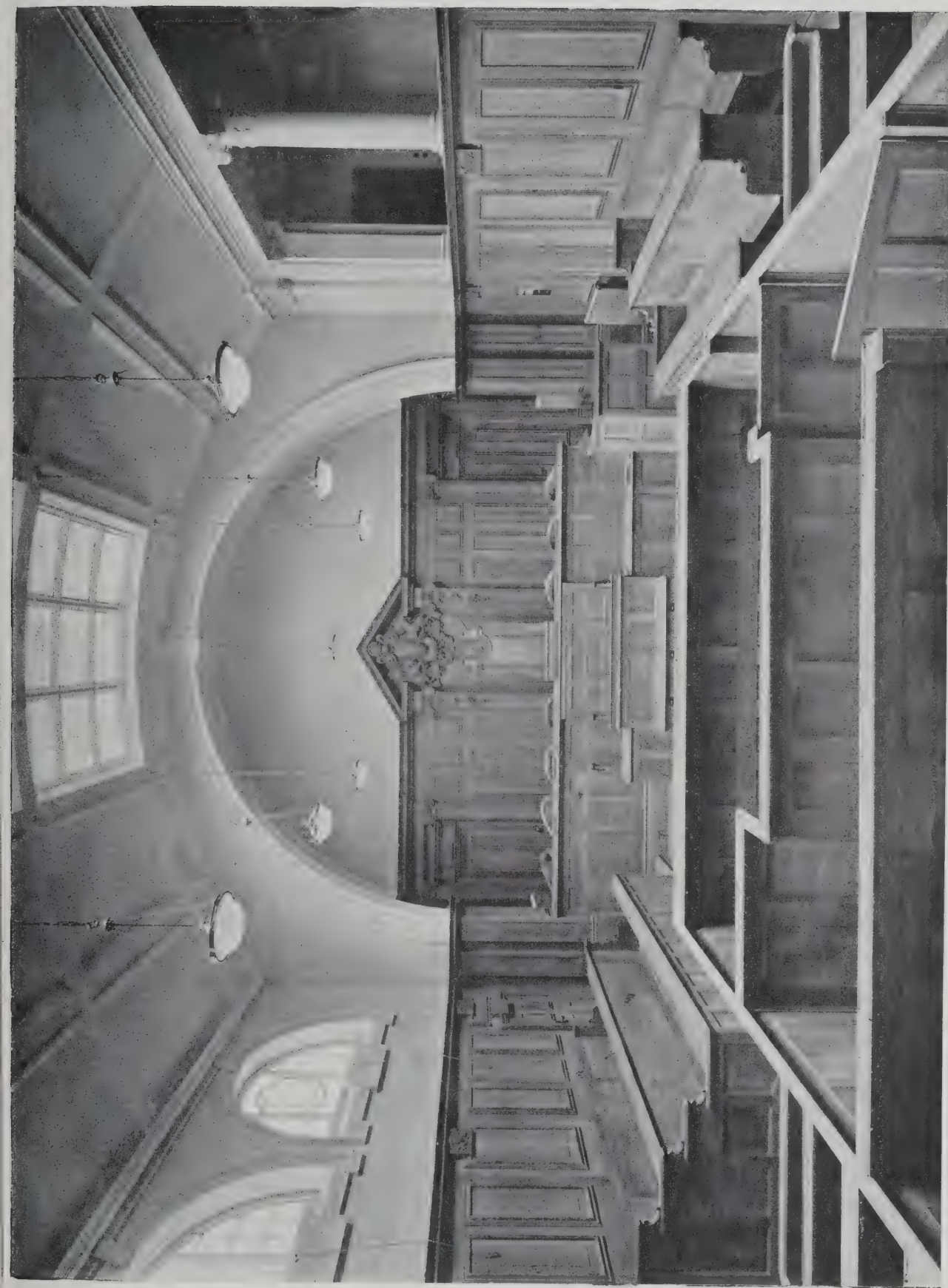


Photo: Thomas Lewis, Ltd.

CURRENT ARCHITECTURE (SERIES II.). L.—NEW LAW COURTS, BOURNEMOUTH: SESSIONS COURT.

H. A. COLLINS, A.R.I.B.A., AND F. W. LACEY, F.R.I.B.A., JOINT ARCHITECTS.



Photo : Thomas Lewis, Ltd.

CURRENT ARCHITECTURE (SERIES III.). I.—NEW LAW COURTS, BOURNEMOUTH: REGISTRAR'S COURT.

H. A. COLLINS, A.R.I.B.A., AND F. W. LACEY, F.R.I.B.A., JOINT ARCHITECTS.

THE PLATES.

Portal to Machinery Hall, Panama-Pacific
Exposition.

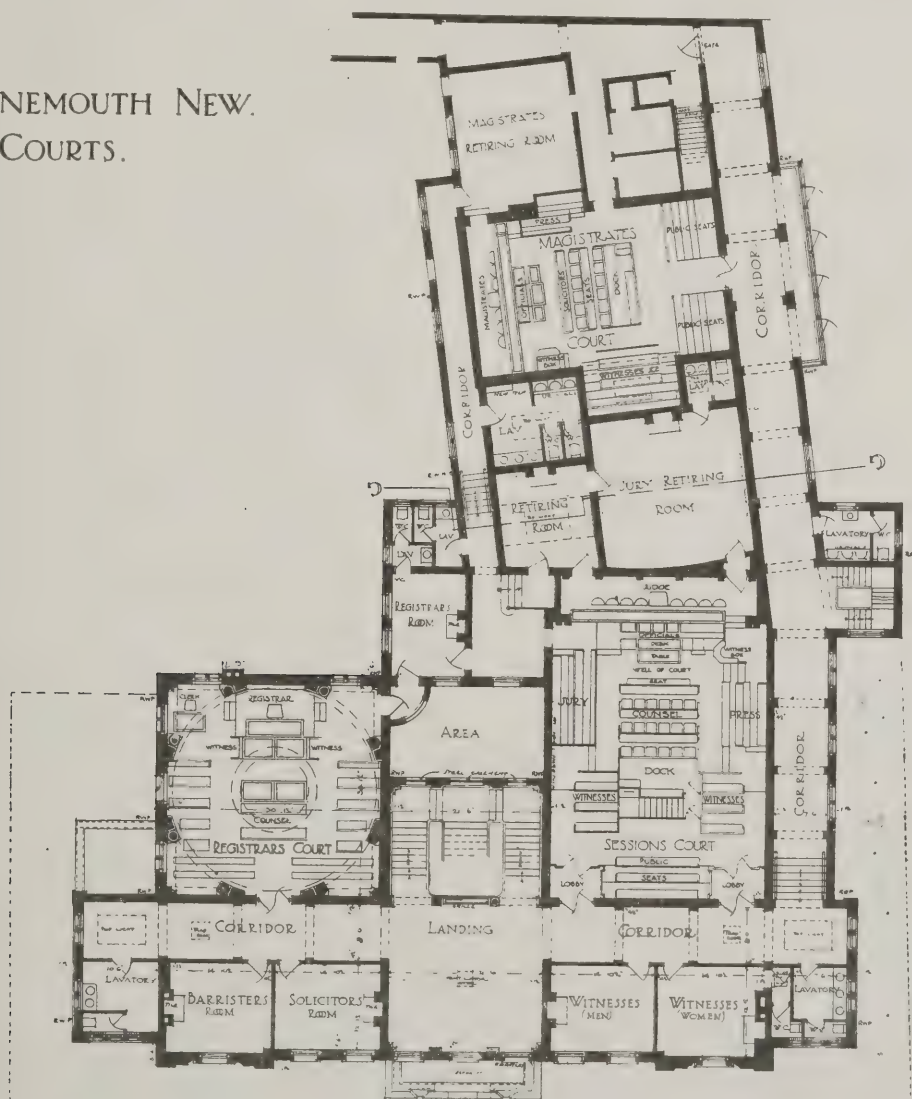
THIS is one of the most striking subsidiary architectural features of the Panama-Pacific Exposition at San Francisco. Everything in design would not be permissible in the case of an ordinary building, but this is exhibition architecture, and a liberal licence is quite proper. There is a certain theatrical effect about the doorway (which borrows its motifs from Roman sources), and an air of gaiety which is appropriate to the occasion. The sculpture group is a rich feature in the foreground, and the columns on each side, with their figures, stand happily as architectural sentinels to the great entrance. Mr. Clarence Ward was the architect.

New Law Courts, Bournemouth.

The new Law Courts at Bournemouth are on the side of Stafford Road, with a frontage of about 100 ft. and a depth of about 165 ft., and embodied

in the scheme is the old Magistrates' Court and some of the rooms adjoining it. The building is of two main floors and a basement, with the main entrance centrally placed in Stafford Road. On the ground floor the large entrance and stair hall has public offices on both sides—on the south side those of the magistrates' clerk, on the north side the plaint office, registrar's office, and bailiff's room—while at the rear are rooms for the police and prisoners awaiting immediate trial, with warders' and wardresses' room, police lobby, and male and female prisoners' rooms. The first or upper ground floor is devoted entirely to the business of the Courts, and to those whose duty it is to attend them. Court No. 1, the Sessions Court, is 45 ft. by 30 ft. with the judge's and jury retiring rooms communicating direct with the judge's dais. Provision is also made for the public in a gallery on the south side. Court No. 2, the County Court, measures 30 ft. square. Facing Stafford Road on this floor is a large public landing, with rooms for barristers, solicitors, female witnesses, and jurors in waiting.

BOURNEMOUTH NEW.
LAW COURTS.



FIRST FLOOR PLAN

SCALE OF FEET

A corridor runs along the south side of the building on the upper floor linking up the old court with the new building and forming an approach to the public gallery. A separate entrance is provided for the judge, magistrates, etc., from Madeira Road, and for counsel, etc., from Stafford Road on the south side. The building is constructed on the Kahn system. The elevations are carried out with Ford- ingbridge 2 in. bricks, with Portland stone dressings, the pitched roofs being covered with Portmadoc slates, laid in diminishing courses, and the flats and domes with asphalt. The Court rooms and furnishings have been carried out in oak left its natural colour, and where upholstering has been necessary it has been done in cowhide, the idea being that these materials will tone to a rich brown colour, giving a dignified appearance to the courts.

By an arrangement with the Home Office the contract drawings were prepared by the Office of Works from sketches supplied, and the supervision of the buildings and the preparation of all $\frac{1}{2}$ in. and full size details were attended to by the Borough Engineer. Messrs. H. A. Collins, A.R.I.B.A., and F. W. Lacey, F.R.I.B.A., were the joint architects. Messrs. G. Shears and Sons, Limited, of Bournemouth, were the general contractors. The total cost of the buildings was £15,500.

House at Keston.

This house, we think our readers will agree, is one of the best in our series of Late Georgian examples. The boarded railing in front of the house has made it very difficult to secure a satisfactory photograph, but the view published on the plate shows what a delightful composition it is, while the photograph on this page, taken from within the fore-court, gives a complete representation of the central feature. The only thing we could well spare is the overgrowth of creeper around the entrance porch.

Under the greenery there is a pleasing pair of columns with Ionic caps, but these are quite obscured by clematis that has been allowed to run too far.

A War Cup.

Modern pieces of silver-ware are generally lacking in those qualities of graceful outline and tasteful enrichment which distinguish the work of earlier periods. It is the more interesting, therefore, to show this silver-gilt cup which has been presented to Caius College, Cambridge, by General Sir H. Meade Hamilton and the Officers of the General Staff of our First Army, in memory of 1915. The cup is a beautiful piece of handicraft. It was made from the design of Messrs. Richardson and Rogers, F.R.I.B.A., by Messrs. Singer and Co., of Frodo.

A Headstone.

Though the art of the monumental mason is now a sorry trade hands, it was not always so, and an example of a simple headstone in a country churchyard serves to remind us of the well-designed ornament and good lettering that are to be seen in the work of the eighteenth century. This stone is dated 1797.

Grand Staircase to Cour de Cassation, Paris.

The design of the celebrated Escalier d'honneur leading up to the corridor of the Cour de Cassation in the Palais de Justice, Paris, exhibits an extension of late eighteenth-century tradition. This feature, in its general idea, recalls the stone staircase designed by Gabriel and Antoine. The detail belongs to a different school. Duc's passion for display in construction is here apparent, but in this case the forms are shaped to a degree of beauty; the line of the stringer is continuous; corbels are placed



"HOLLYDALE," KESTON, KENT: DETAIL OF ENTRANCE FRONT.

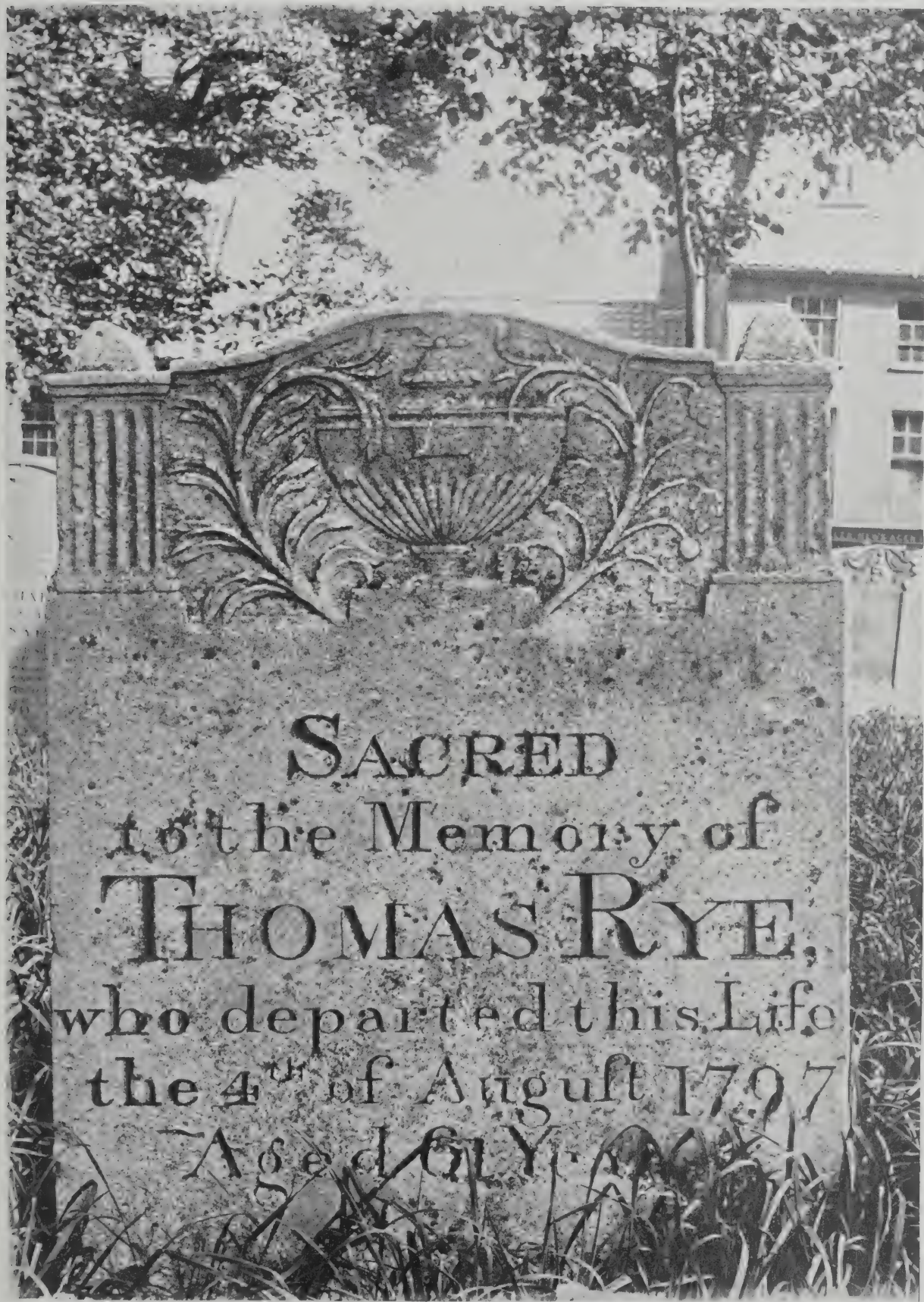


SMALL HOUSES OF THE LATE GEORGIAN PERIOD (SERIES II.). VIII.—"HOLLYDALE," KESTON, KENT.



DETAILS OF CRAFTSMANSHIP. XXXVII.—SILVER-GILT CUP PRESENTED TO CAIUS COLLEGE, CAMBRIDGE, BY GENERAL SIR BRUCE MEADE HAMILTON, G.C.B., K.C.V.O., AND OFFICERS OF THE GENERAL STAFF, FIRST ARMY, CENTRAL FORCE, IN MEMORY OF 1915.

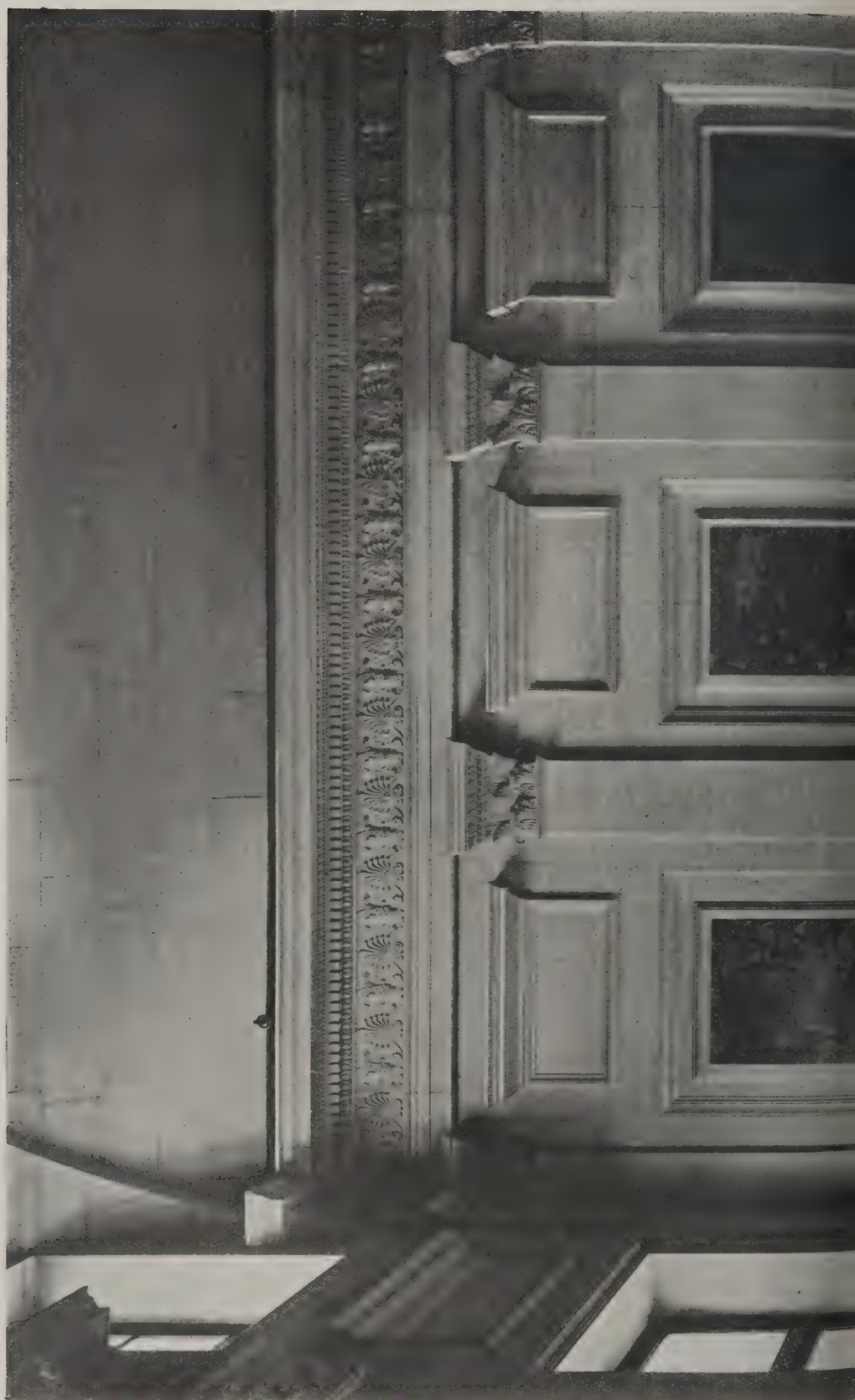
RICHARDSON AND GILL, F.F.R.I.B.A., ARCHITECTS.



TABLETS AND INSCRIPTIONS.—XVI.

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NINETEENTH-CENTURY FRENCH ARCHITECTURE. XVI.—PALAIS DE JUSTICE, PARIS: GRAND STAIRCASE TO COUR DE CASSATION.
J. L. DUC, ARCHITECT.

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intermediate supports; the critical eye is feasted every junction. The rusticated wall surface is logical and decorative, the wrought-iron balustrade lace-like in its delicacy, owing allegiance to no period or style, but related to the rich tradition of French smithery. In turn, this staircase has served as a motif for many recent French buildings, the noble staircase designed by M. Nénot at the new Carbone being an instance. Joseph Louis Duc, who died in 1879, was for forty years the controlling mind in the erection of the additions to the Palais de Justice, and those who worked under his direction entertained feelings of the deepest respect and affection for him. It is of interest to note that he prepared a scheme showing the ultimate completion of the group of buildings by a triangular treatment of the Place Dauphine, enclosing a court having a gigantic statue of the Law in the centre; but this scheme unfortunately was never carried out, probably owing to the vast amount of money that had already been spent in making this group of law courts the magnificent entirety that we see to-day.

CORRESPONDENCE.

The Canberra Federal Parliament House.
 To the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.

SIRS,—In your Editorial in the Journal of September 29 you state that, according to the revised conditions of the competition for the Federal Parliament House at Canberra, only architects practising in the British Empire will be allowed to compete.

I think the competition should be open to all architects of British nationality in practice. According to the R.I.B.A. Calendar for 1914-15, there were thirty members of the Institute in various parts of America at the time the list was compiled, and ten on the continent of Europe. I do not know if these are architects in practice, but suppose the majority are, and probably there are a good many architects of British nationality in various parts of the world who are not members of the Institute.

A. E. G.

[We agree with our correspondent (the heading of whose letter shows that he has been in practice in Warsaw, Poland) that the competition should be open to all architects of British nationality. Probably such cases as those to which he refers were overlooked in drafting the conditions.—EDS. A. & J.]

Proposed Monument to Nurse Cavell.
 To the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.

SIRS,—There will certainly be raised, almost immediately, some form of national memorial to Miss Edith Cavell, the gentle and heroic nurse who was so foully done to death by the brutal Germans. There are ready many suggestions as to the form it should take have been put forward. Very properly it has been proposed that there should be a memorial of her at her native village near Norwich, and another at the London Hospital, where she was trained. By all means let it be so; but I venture to think that these merely local memorials would not satisfy the intense feeling of veneration and pity that has filled her compatriots throughout the Empire. These local memorials should be merely supplementary to a great national monument to be set up in London in commemoration of her noble life and her cruel martyrdom. It need not be an addition to the very many statues of women that we have in England. Preferably it should take the form of a noble

hospital. Every soul throughout the Empire would be eager to subscribe to this object, and we ought therefore to be able to raise to this dear martyr such a monument as shall at once promote the work for which she lived and died, and stand also for a perpetual tribute to nobility of soul and the national recognition of it.

M. V. S.

In Memory of the War.

To the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.

SIRS,—I should like to draw your special attention to the interesting proposal from the Professional Classes War Relief Council which was discussed by the London Education Committee last week. This Council asked that, with a view to finding work for artists in distress through the War, the walls of certain Council schools, to be selected by the Council, might be decorated with friezes and panels, the decorations to remain the property of the Council. It was proposed that the subjects and designs should be supervised by an expert committee of artists, and submitted for approval to the Council before being carried out. In order that the work of the schools might not be interfered with, the friezes and panels would be executed away from the school buildings, and fixed during the school vacations. The Council would not be put to any expense in the matter.

The proposal was unanimously approved by the Education Committee, and it is, I think, a very admirable scheme. But some points of criticism are raised in respect to the style of the decorations which are suggested to be carried out. When the matter was under discussion one member urged that the decorations should not be classical but modern in style. As an example, he cited the case of one of their old scholars who had gained the V.C.; a panel depicting how he won it would surely be appropriate for his old school.

This is, I think, a matter of considerable importance. When we come to commemorate the achievements of this War we should put aside the usual Victories, Fames, and the rest, which are used like so much classical stock-in-trade, and substitute for them some definite, tangible record of the actual men of the nation we belong to. A great nation in a great War should have no occasion to turn to the Antique for its models.

London.

ARCHITECT.

THE R.I.B.A. MEETINGS: IMPORTANT NOTICE.

AT a meeting of the Council of the Royal Institute of British Architects held on Monday, the 18th instant, it was decided, owing to the war and the exigencies of the lighting regulations, to cancel the programme of papers and to suspend altogether the evening meetings which had been arranged for next session. The President, however, will deliver the opening address on November 1, as already announced, but the meeting will be held at three o'clock in the afternoon instead of eight in the evening. General meetings will also be held during the session for the election of members and the transaction of the usual business of the Institute, the meetings to take place at three in the afternoon. At the meeting of November 1 the portrait of Mr. Reginald Blomfield, R.A., Past President, painted by Mr. J. J. Shannon, R.A., will be formally presented to the Institute. It was also decided that the hours of the Institute library should, until further notice, be from 10 a.m. till 6 p.m., instead of from 10 till 8 as hitherto.

IAN MACALISTER, *Secretary.*

THE FIGHT FOR CANBERRA.

UNDER this title Mr. George A. Taylor, the editor of our Sydney contemporary, "Building," has a powerful article on the discontents that continue to dog the Canberra scheme. Mr. Taylor, it will be noticed, is a strong supporter of the architect of the winning design for the proposed new Federal capital, and is opposed to the departmental officers who have endeavoured to supplant the accepted plan with their own "built-up" design. Mr. Taylor endeavours to prove against the departmental officers that their policy is wrong, their efforts are misdirected, and the scheme of operations at Canberra is money-wasting, and, therefore, not in the best interests of Australia.

There is, he declares, only one way to save Canberra. It is by the appointment of a commission of experts, as he recommended at the beginning of this fight for Canberra, in June, 1912.

Early Bungling.

The story of Canberra, he says, is a story of bungle. Since taking over the site the Federal Department of Home Affairs has displayed serious incapacity. Muddle seems to dog its actions. As far back as January, 1912, "Building" focussed the light of public notice on the peculiar methods of "Departmentalism." At that time the world's competition for a design for the Federal City was about to close. The contour plan issued to competitors was somewhat misleading. It had a proposed railway line that led to the baulking of many competitors, and the creation of absurdities by others in vain attempts to plan round it or dovetail it in. On the site at this time more than ordinary constructional activity was going on. New roads were being built and old roads remade at the cost of £14,484. Concrete administrative offices were being built at a cost of £2,400. A new bridge had been constructed over the Molonglo River. In fact a sum of £313,000 was being expended before any plan had been selected.

How the money goes, he says, can be gleaned by studying the actual expenditure on works and buildings at Canberra as follows: 1912-1913, £137,000; 1913-1914, £252,000; 1914-1915, £270,000; total, £659,000; add land resumption, £400,000; a total expenditure of £1,059,000!

Despite "astounding delay and extravagant expenditure," the average Australian does not seem to bother. In his easy-going, casual way of thinking he evidently considers: "It's a 'capital in the bush,' anyhow, so it's not worth wasting a think over." But if he knew that over £1,000,000 had been already spent there; that nearly half a million is proposed to be spent there this year; and that the money is being squandered, he would, perhaps, sit up and take notice. With the war tax and higher interest on loan money; with a war debt of £40,000,000 for the past year, equal to £8 per head of the population, with more to follow; it is vitally necessary that every Australian should survey the whole question of Canberra and decide on immediate action.

In the world's competition for the design of Australia's Federal City, Mr. Taylor recalls, W. B. Griffin was awarded first place on May 14, 1912. The then Minister (King O'Malley) called together certain officers of his Department, and formed a Departmental Board. These officers were evidently instructed by the Minister to pick the eyes out of the competitive designs and prepare a "built-up" plan. So they

evolved what became known as the departmental plan. This "built-up" plan was so absurd in its lay-out, that it created a tremendous outburst of condemnatory criticism from town-planners the world over.

How Australia Condemned the "Built-up" Plan.

The Australian reception of the built-up plan was generally condemnatory. The writer immediately prepared a petition against its adoption. In three days the petition was signed by 260 leading architects and engineers of the Commonwealth. The petition asked that a commission be appointed to report upon the general administration relative to the building of Canberra, and review the "built-up" design.

Early in July, 1913, the Government of the time sent for the winner of the capital competition, W. B. Griffin. It was asked that he should be the first expert appointed to the suggested commission. The departmental plan was put aside, and Mr. Griffin was appointed for three years as Federal Capital Director of Design and Construction. On August 19, 1913, he arrived at Canberra, staying there till August 24. He returned to Melbourne, amended his prize design, and the then Minister (W. H. Kelley) called a meeting of the Board on October 15 to consider this amended design. The members of the Board objected to the design. They claimed that it provided for a city too large for Australia. They considered that it erred in providing for the business portion of the future city north of the river. They believed that the temporary business on the south of the river would unalterably fix the business area there. They also objected to Mr. Griffin's idea of diverting the railroad by confining it to the steeper slopes. They further objected, on the ground of expense, to the water basins and the long railroad crossing them. As they could not at all concur with the amended design, the Minister disbanded the Board. Mr. Griffin was now in possession of a great strategical position. He reported to the Minister on his conference with the officers, and considered his draft design "by no means a working drawing or finality." He stated that the architectural treatment was not included, and concluded with the following sentence: "This stage of the work consists solely in the direction of determining the main lines diagrammatically on the basis of a general system of organisation, generalities necessarily preceding particulars." Mr. Griffin here instanced his unfortunate proclivity for loading reports with involved phrases, when simple, direct language is demanded.

He strengthened his position by an agreement with the Commonwealth Government appointing him Federal Capital Director of Design and Construction. The agreement set out that his duties were, *inter alia*: "(a) For the purpose of the creation and development of the Federal Capital City at Canberra, to prepare general designs, specifications, plans, and documents, and generally direct the details and execution of works necessary to give effect to them, and in particular, but without limiting the foregoing words: Public ways and parks. Paving of roads and other ways. Street and park planting. City beautification. Services and equipment. Accessory structures. (b) Advise upon the future development of the Federal Capital City, including the location of

structures, their co-ordination, constructional materials, and relative scale and proportions. (c) Advise upon and so requested by the Minister) prepare conditions of competitions for public buildings and works for the Federal Capital City a preliminary feature plans for the guidance of competitors. (d) Not compete in any of the said competitions. (e) Advise upon the allocation of 'zones' for various purposes of occupation in connection with the Federal Capital City. (f) Draft a code of regulations covering the general character of private improvements, as well as sanitary requirements of all constructions. (g) Perform any other work in connection with the Federal Capital City which is in keeping with the character of the position of Federal Capital Director of Design and Construction. (h) Exercise all reasonable care and diligence in carrying out his duties under the agreement.

It will be seen that he had a wide scope of action.

The then Minister for Home Affairs (H. Kelly) stated the basis of the agreement in the House of Representatives as follows: "The agreement with Mr. Griffin provides that he will advise upon, and, if so requested by the Minister, prepare conditions of competitions for public buildings and works for the Federal City and preliminary feature plans for the guidance of competitors. It is proposed to give his advice to ensure harmonious structural development. The Government will be able to have the erection of buildings supervised by its own officers."

On November 10, 1913, Mr. Griffin asked for the transfer to his staff of A. J. Macdonald, an officer of the Patent Office. Mr. Macdonald, having competed in the Federal Capital competition, was delighted with his task, and, in addition, was a highly capable professional man. Mr. Griffin instructed Macdonald as follows: "Compiling and tracing of the general plan of the city. Prepare plan, section, and elevation of site of the Government group sufficient to define the limitations and the immediate setting of Parliament House site. Prepare for purposes of reproduction the functional diagrams of 'public groups' and 'Government group' for illustrative purposes. Draft a tentative diagrammatic plan of Parliament House to show a position in harmony with the city plan requirements to assist in determining data for the allowable spaces to be allowed to different purposes and the allowable limits of cost for the temporary and permanent structures, to be inserted in the competition programme. Devise, in conjunction with the Government printer, a dummy draft of the programme of competition to be submitted to the Minister to duplicate to be forwarded to myself. Macdonald is also instructed to transmit information to and receive instructions from me, and give such time as is necessitated by these, during my absence from Australia." It will be seen that Mr. Macdonald was a valuable man for Mr. Griffin.

The conditions for the Parliament buildings were prepared and Mr. Griffin gave the first opening for attack. He included a condition as follows:

"The Australian Commonwealth, with no historically-evolved suitable architectural style, but with unique scope in unlimited open continent for national growth, with this virgin city site under unified control, and possessed of modern building science, appliances, and materials is in a position to exact unity in plan

homogeneity in expression and harmony with the whole natural environment beyond ordinary opportunity. Since the city is to evolve gradually, the desired unity cannot be assured by personality, nor can it be established by a popular government. Hence it is desired that the standard design be the expression of actual functions through practical organic planning; though the direct adaptation of the inherent characteristics of the materials used, avoiding intrusion of irrelevant features, however time-honoured, on the one hand, or individual on the other, and enough recognition of the peculiar site conditions."

Mr. Murdoch seized upon this clause. In a criticism of the conditions some time later, he pointed out that the men who would really count in the competition ought not to be regarded as students. They would have appreciated long ago how far the principles they were asked to observe would underlie appropriate architectural expression and to what extent tradition could be used or set aside in producing it. Mr. Griffin now made his most serious tactical error. He had won possession of an vulnerable position, but practically abandoned it by leaving for America and Europe November 15, 1913, on six months leave of absence, to arrange his private affairs and, incidentally, interview the architects nominated as judges in the proposed competition for the Parliamentary buildings. He had no sooner left Australia than a bitter attack was launched against his design in the Sydney Press. I considered the attempt to wreck a man's design in his absence unsportsmanlike. This design had won the first prize. Hence, for the sake of Canberra, and in defence of an enemy man, I took up the cudgels. Within a few months the opposition was silenced. On the credit of his opponents in the original competition, it can be said that they accepted the situation and have fully stood by the decision. One wrote: "Mr. Griffin has been engaged to direct affairs at Canberra, and it is only right and fair he should have a free hand in his most important work."

It appears that Mr. Macdonald was only "loaned" from the Patent Office so that he could carry out the Canberra work in the time given to him for leave of absence.

December 4, 1913, he received a letter from the Home Affairs Department, asking why he had not returned to duty. Mr. Macdonald thereupon returned to his former post. He, however, handed in the proof of the "preliminary plan" on December 29, 1913. Mr. Griffin returned to Australia on May 12, 1914, and began to work around and collect his scattered forces. Mr. Miller hinted of a first shot that he had ready for the second stage of the battle. On May 23, five months after the "preliminary plan" had been sent in, he wrote to Mr. Scrivener (Director of Commonwealth Lands and Surveys) that he had not received from the Minister information respecting the "amended design" for the lay-out of the city.

On June 9 Mr. Griffin's first shot echoed through the Home Affairs Department by reporting to the Minister, somewhat ominously, on the experiences of his foreign journey. He pointed out that he had conferred with the adjudicators for the proposed Federal Parliament House competition, viz.: Victor Laloux (Paris), Otto Wagner (Vienna), Louis H. Sullivan (Chicago), John James Burnet (London and Glasgow). He said he had also conferred with representative architects and engineers, with several associations of America, and had lectured in various cities on the project. In addition to consulting

with architects of England, France, Germany, and Austria, he had conferred with "leading architectural publishers of Germany and France, providing for a thorough and early dissemination of the announcement of the competition." He also consulted leading American and European municipal, sanitary, illuminating, civil, structural, and gas engineers, got in touch with examples of recent installations, and, in connection with the municipal legislation phase of the work, started an accumulation of drafts of laws and regulations from a variety of sources and corresponded with a view to securing considerably more in course of time from England, the Continent, and America.

He followed all this up on June 10 by asking that he be given an architectural draftsman, as he put it: "I have also requested the assignment of an architectural draftsman which Mr. Murdoch has agreed to effect." He also added: "Though as to the precise character of the man, he is not able to inform me in advance."

On the same date Mr. Griffin attempted to gather a professional consultative staff. He reported: "In furtherance of my general purpose communicated to you on November 21 last, and since the question of sewage disposal has not yet been determined in connection with the sanitary engineering policy at Canberra, and since definite arrangements for disposal must precede any construction of outfall or reticulation, which are the next steps to be taken in preparing for population, I respectfully request the privilege to arrange at this time for highest class available authoritative consultation service on sanitary engineering. The immediate necessity is a report sufficiently exhaustive to lay down the basis for the ultimate development of the water service supplies as well as discharge, and for the disposal of all waste matter from the city. . . .

"Because the problems of reticulation of all services in a new city require simultaneous study to reach the most compatible provisions, and to be fully considered before other elements in the design are fixed hard and fast, in order to secure that degree of efficiency which is possible with the unique opportunity of pre-planning the whole, I respectfully ask authority to secure at this time the highest class available of consultation services in the matter of gas engineering and allied branches of municipal work. . . .

"Because the problems of reticulation of all services in a new city require simultaneous study to reach the most compatible provisions, and full consideration before other elements in the design are fixed hard and fast, in order to secure that degree of efficiency which is possible with the unique opportunity of pre-planning the whole, I respectfully ask authority to secure at this time the highest class available consultant in the matter of tramways, electrical mechanical generation, power distribution, public illumination system, and similar problems." He gave the names of the experts in each department whose services he desired, but, as Mr. Taylor laconically puts it, "Nothing happened!"

A Skirmish with the Director-General.

In the meantime, Mr. Griffin bumped against Mr. Owen (Director-General of Works). It must have been an interesting interview. Mr. Owen afterwards referred to this or a similar incident, stating: "A disagreement occurred when Mr. Griffin tried to assume my responsibilities. There would have been personal friction if I had not exercised forbearance."

Mr. Griffin, on June 10, reported his interview with Mr. Owen to the Minister as

follows: "Also, I have taken steps to inform myself as to the conditions of affairs in the construction work going on at the Federal Capital, and have found that the Director-General of Works considers that this is none of my business, and he has declined to give me the status of the finances on those grounds, stating, however, that all the funds were earmarked for definite purposes which must be complied with, and that nothing would be available for staking out and carrying into effect the plans of the city under any existing provisions. He discussed the matter very candidly with me, and considers that design and construction should be independent of each other, and that design can be laid down without reference to construction, which could then be taken up subsequently; that design, in his estimation, primarily concerns aesthetics. Of course, my own understanding is quite the reverse, i.e., that design is a consequence of constructive needs as well as functional needs, and that only on the broad basis of both together can it be effectively handled. Possibly, if the Director-General of Works can be set right as to this fact, he may be willing to co-operate as desired. Though, of course, 'anything can be constructed,' as he states, I do not place my designing on any such arbitrary basis. I explained to him that the question in which I was interested was one of economy, ultimate and immediate, and, though he wishes to assume entire responsibility as to economy, he is not in a position to secure it by the means proposed by him, or unless he be given entire responsibility for the design as well."

The Minister replied to the Secretary for Home Affairs:

"To facilitate the Federal Capital Director of Design and Construction understanding the purpose, extent, and policy of the engineering services being established in connection with the capital I desire the Director-General of Works to assist Mr. Griffin by giving him, when requested so to do through you, expeditious answers to information desired."

It was a decided score for Mr. Griffin. He evidently knew it, for he followed up his victory with the following broadside, emptied at the Secretary for Home Affairs:

"Please furnish me with complete information as to provision for expenditure of all moneys that have been granted or requested in connection with the works at the Federal Capital. I shall require plans and specifications of all the works undertaken or projected."

The Secretary immediately tagged a reply to the letter and sent both along to the Minister. The reply read: "(1) Expenditure of Money.—The request is a very comprehensive one, and will embrace many items, such as: Administrator's staff, rabbit destruction, medical services, education, roads outside city, pipes outside city, weirs outside city, surveys outside city, lands acquisitions outside city, which, according to the agreement—copy attached—are apparently not any concern of Mr. Griffin.

"(2) Copies of Plans and Specifications.—I think, probably, Mr. Griffin is asking for more than he is aware of. There are a large number of plans and specifications, some in Melbourne, some with the Consulting Mechanical Engineer, in Sydney, copies of which are, I understand, not available, and it will be considerable labour to get together. They embrace plans and specifications for various portions of electrical and other machinery, erected a considerable distance from the city site, and would be a mass of material to wade through.

"Mr. Griffin probably wants to arrive at the fullest particulars of what has been

done to provide the city with water, electricity, power, sewerage, etc., where it is proposed that they shall come into the city, what volume of water, etc., has to be provided for.

"I suggest that he should have a conference with Colonel Owen as to what volume of water, etc., has to be provided for.

"I suggest that he should have a conference with Colonel Owen as to what particulars are really requisite.

"Submitted for instructions, as I do not feel at liberty to give away, without the Minister's approval, particulars beyond what would appear to be necessary for the work specified in the agreement with Mr. Griffin."

Was the "Preliminary Plan" the Accepted Design?

On June 17, 1914, Mr. Griffin stated to the Minister for Home Affairs (Kelly) that he had drafted a "preliminary lay-out" plan, and that he had "completed arrangements for securing an architect for Federal Parliament House." He also requested to be given a staff of assistants.

I quote the phrase, "preliminary lay-out," because it gave the opportunity for considerable cross-firing, lasting over some months, as to the interpretation of that phrase.

Mr. Miller began the cross-firing on June 22, by asking the Chief Clerk, Department of Home Affairs, to "kindly advise whether Mr. Griffin's amended design for the lay-out of the city is available, also are there any reports by that gentleman."

Note hereunder the apparent hesitation of the departmental officers to accept Mr. Griffin's amended plan as final. The Chief Clerk (Walter Bingle) wrote the Minister for Home Affairs (W. H. Kelly) on July 3, asking if the Griffin amended design, or, what Mr. Griffin called "the preliminary plan," was the accepted design. Mr. Bingle added that Mr. Griffin had said it was the final design so far as he (Griffin) knew at present, but, until he got a plan of certain surveys by Mr. Scrivener, and saw what the continuation of the main avenues shown on the design would be like, he (Griffin) could not state positively whether those avenues were fixed. Mr. Bingle continued that officers were uncertain as to whether they were to expect a further amended plan or an enlarged plan of the present design.

The Minister then took a definite stand and, to settle the new point raised, replied, on July 7, 1914, that the amended plan was the accepted plan "in which Griffin could recommend such slight modifications, if any, as the extended contour survey may seem to make advisable." "In the meantime," said the Minister, "officers should approach the Director (Griffin) direct as to allocation and use of particular areas for particular purposes." He concluded by saying that Mr. Griffin was preparing a report explanatory of the amended plan, and awaited Mr. Scrivener's extended surveys.

Mr. Bingle then wrote Mr. Scrivener, on July 10, 1914, respecting this "approved design for the lay-out of Canberra," and asked him to give "early compliance" in respect to particulars of surveys asked for.

After a tough fight Mr. Griffin had scored—but his triumph was short-lived. Then the Great War came like a "bolt from the blue," and, contemporaneously, Australia was cast into the vortex of a violent political maelstrom. A double dissolution of Parliament was sought by the Liberal Government and granted. That, in itself, was sufficient to quicken the public pulse,

but wedded to war it sent the people into an unparalleled fever of excitement. All creeds, classes and political breeds lost their heads. A violent mental thunderstorm raged within the Commonwealth. Canberra was almost forgotten in the uproar. When finally came the calm, Australia had declared, or rather re-declared, itself for "Labour." The "Liberal" Government went out, and the work of extricating Mr. Griffin and his plan from the wreckage began all over again.

IRISH GOTHIC ARCHITECTURE.

Irish Gothic architecture, writes Mr. R. M. Butler, F.R.I.B.A., in the October number of the "Irish Monthly," is not a subject that can be said to have attracted much study, and there are many educated persons who assume that Ireland never possessed a pointed architecture of its own.

The labours of George Petrie, ever famed as the author of "The Round Towers and the Ecclesiastical Architecture of Ireland" and the first serious authority on Irish architecture, were directed to the investigation of the earlier types, culminating in the Romanesque of Ireland, with its interesting, and to some extent still unsolved, problems. This diverted attention from the later styles. During the Romanesque era Ireland had early developed a style of architecture not inferior to that of any other country, while in the particular domain of decorative art as exemplified in the high crosses, in illuminating and elaborate metal work, not to speak of the remarkable round towers, excelled other countries.

In the Gothic Age, for reasons which history explains, Ireland fell behind, and as a result of the English invasion there arose two separate developments of the same style, the one English, the other Irish. It would, however, be a mistake to assume that the English invasion was directly responsible for the decline of Romanesque or the rise of Gothic in Ireland. Both followed the fashion and natural development. Had the English never invaded Ireland, Romanesque might have lingered longer and developed more fully, but its ultimate passing would not have been hindered, nor, on the other hand, could the introduction of Gothic into Ireland have been long delayed.

The development of Gothic Art in Ireland may with ease be traced, as in other countries, through a transitional style, from the round to the pointed.

Where the English held sway, as in the Pale, Gothic art is of a purely English type. Christ Church Cathedral, Dublin, the Abbey of the Holy and Undivided Trinity, may be taken as the most typical example. Its detail is characteristically English; some of the materials of which it is built were imported, the external cutstone, erroneously supposed to be Caen stone, the Purbeck marble shafts, etc. It was founded in 1038.

If we wish to learn something of the Irish phase, we may turn to churches built under native auspices, remains of which are still plentiful. We find that although possessing a resemblance to the English manner, essentially native peculiarities are early noticeable, and as Gothic advanced culminated in the development of a definite national style.

The ecclesiastical conditions in Ireland differed from those in France or England, in that the monastic system predominated here so exclusively. No great cathedrals like those of France or England were built, nor vast parish churches, little inferior to

cathedrals in size, such as are not infrequently found in England. The ear churches were merely small oratories of the simplest design, gradually increasing in size and importance. Almost all the more important later buildings were abbey churches. In these was evolved a very interesting though plain type of Gothic Art, the main characteristics being the long low outline and the absence of purely ornamental features. The lofty vaulted naves of France were as little emulated as the rich exuberance of late English Gothic; but the style was appropriate and suited to the building materials of the country.

By the second quarter of the thirteenth century Gothic was fully established in Ireland, and Mr. A. L. Champneys, while claiming a large and possibly excessive measure of English influence, declares that "early Gothic was a living style in Ireland." Indeed, it is impossible to examine Irish ecclesiastical architecture of this period and to deny that it was both a living and a native style, though the work had less individuality than at any other period.

Mr. Champneys' analysis of Irish Gothic may be taken, on the whole, as a fair and discriminating one, though his tendency is rather to exaggerate the English influence and to underrate the very large effect which constant and intimate intercourse with foreign countries other than England must have had.

On the other hand, in such details as the later altar tombs like those at Strade, Cahane Mayo, Cahane Abbey, Galway, and the carving in the north transept of Cash Cathedral, at Kilconnell Abbey, Kilkenny, etc., the Irish examples are very distinctive; some of them splendid specimens.

When we come to later times, the buildings of the fifteenth century plainly show the growth of the national style, and indicate influences which must have been derived from the Continent and not from England, but adapted and developed here. Amongst such buildings may be instance the abbeys of the south and west, constituting a definite type. The Franciscan towers with their delicate inclination of the battlements, sometimes oblong on plan, plain unbuttressed faces, etc., are quite unlike anything in England. The tracery developed on lines entirely its own; the elliptical heads to the lights, and the flowing curvilinear tracery, generally without cusping, and very simple in its lines, bear no resemblance to the French "fishing net" or reticulated tracery, or perhaps to Spanish or Portuguese work than to anything English. Another feature for which the Irish builders had great fondness was the pronounced ogival finish to the arches of doors and windows, even to narrow lancet lights; this and their manner of carrying up the crocketing into a rich bunch of foliage, are also essentially Irish features. The mouldings are peculiar in that they are shallower and simpler than English, with little or no undercutting, probably owing to the extreme hardness of Irish limestone.

Of these churches, the Franciscan Abbey at Adare and Quin, Timoleague, Kilkenny, etc., serve as examples. The well-known Muckross Abbey at Killarney is also very Irish, as are the western abbeys, such as Murrisk, Burrishoole, and Rosseville. The doorway at Quin displays the characteristic Irish mouldings. But possibly one of the most un-English features of Irish abbeys is to be found in the cloister arcades, as at Cong Abbey, Jerpoint Abbey, Quin Abbey. The Irish battlements are also very distinctive features.

NEWS ITEMS.

Marriage.

we have to announce the marriage of Charles Lovett Gill to Miss Adele Benson, which took place at Golder's, on Thursday, October 22. Many architectural friends were present at the ceremony, which was performed by the groom's father, the Rev. Alfred Gill.

The Rebuilding of Belgium.

A Special Commission on Monuments and Sites in those parts of Belgium not invaded by the enemy is ordered by Royal Decree. Plans for reconstruction are to be drawn up by local authorities, under the supervision and advice of the Special Commission. The issue of the "Moniteur Belge" containing the Royal decree may be inspected at the Commercial Intelligence Branch of the Board of Trade, 73, Abchurch Lane, London, E.C.

Trafalgar Day Souvenirs.

The Queen recently honoured the British and Foreign Sailors' Society by visiting its headquarters in East London, and intended to be photographed while standing before the oak timber taken from Nelson's famous flagship "Victory." Before the same piece of oak (but on board the ship) stood the late Queen Victoria in the last part of her reign. The society is raising in various ways the debt we owe to the sailor and his ship. On Trafalgar Day it presented to Admiral Sir Jellicoe, the Commander-in-Chief, a Trafalgar souvenir suitably inscribed. It is a bust of Nelson made of copper from the mainmast of the ship, standing on "Victory" oak and fixed upon a base of serpentine Cornish rock. There was on the day unveiled in the John Cory & Sons' Rest, Milford Haven, by Vice-Admiral Charles H. Dare, M.V.O., a bust to record the important services rendered by the society since the beginning of the present war.

New Buildings for Aberdeen.

The Plans Committee of the Aberdeen City Council has passed the plans of the new buildings in Aberdeen: alterations and additions to offices in connection with Torry Sawmills, Crombie & Co., for William Fiddes and Son, Ltd., for John Rust, architect; petrol store on the south side of Albyn Place, for the Glasgow Branch of the Red Cross Society, for Mr. George Bennett Mitchell, architect; alterations at Cairnquhogue, Richmondhill, for Mrs. Rose, King's Gate, per Mr. J. D. Duncan, advocate; store on the south side of Rose Place, for Harrott and Son, Ltd., per Messrs. D. and J. R. Allan, architects; six cottages on the south side of Brighton Place for the North-Eastern Suburbs, Ltd., as per Messrs. J. R. M. Millan, architects; alterations and additions in connection with premises on the north side of North Esplanade, for George Mellis and Son, Ltd., per Mr. George Bennett Mitchell, architect.

Painters' and Carpenters' Hours of Employment.

These painters and carpenters employed in the L.C.C. fire brigade workshops have that their hours of employment may be the same as those of the men of engineering trades employed in the workshops, i.e., fifty-four hours a week, instead of the usual hours worked by them, which is forty hours a week for thirty-five weeks, and forty-four hours a week for seventeen weeks of the year. The Fire Brigade Committee have been informed that this arrangement would not be inconsistent

with the provisions of the Council's list of rates of pay and hours of labour, and would be in accordance with the practice generally observed in engineering workshops. Additional expenditure of about £100 in the current financial year, which can be met out of maintenance vote No. 60, will be involved by the adoption of the proposed new working hours, but the work will be so re-arranged that ultimately no additional expenditure will be incurred. The Finance Committee have concurred in the increased expenditure involved during the current financial year, and in these circumstances it was arranged for the men in question to work fifty-four hours a week. The General Purposes Committee will submit in due course the necessary regulation to give effect to the proposal. It was recommended that the fixing of the hours of employment of house-painters and carpenters employed in the fire brigade workshops at fifty-four a week be approved.

Mr. Brangwyn's "Book of Bridges."

Admirers of Mr. Frank Brangwyn's work will remember that paintings and etchings of bridges have held an important position in his art for about a dozen years. They and others will be interested to hear that Mr. John Lane published, on the 26th inst., "A Book of Bridges" (crown 4to, 21s. net), the pictures being by Frank Brangwyn, A.R.A., and the text by Walter Shaw Sparrow. Mr. Brangwyn's work is represented in this book not only by thirty-five plates in colour, reproductions of pictures by the artist, but also by twenty-six black and white cuts drawn for the book. It forms, therefore, a unique Brangwyn gallery. A large paper edition (15 in. by 11 in.) of this work will shortly be published at £5 5s. net. In addition to the illustrations contained in the ordinary edition, it has a lithograph specially executed by Mr. Brangwyn for the book as a frontispiece.

OBITUARY.

Mr. George Bell, F.R.I.B.A.

Mr. George Bell, F.R.I.B.A., of Glasgow, died on October 18. Mr. Bell, who was sixty-one years of age, had been in indifferent health for some time. He was a prominent figure in the architectural profession at Glasgow. He received his education at the High School, and served his pupilage as an architect in his father's firm, in due course becoming a partner. The firm of Messrs. Clarke and Bell, which was established in the 'forties of last century, designed many notable buildings in Glasgow, among them the County Buildings. When it was decided to rebuild the Justiciary Court in Jail Square his firm was chosen to design the new building. We illustrated the building in our issue for July 7 last. In 1908 Mr. Bell was appointed president of the Glasgow Institute of Architects. In public and social life he took an active part. He was prominent in the old Volunteer movement, and in early manhood joined the 3rd L.R.V., afterwards attaching himself to the 1st Lanark Artillery Volunteers. He retired with the rank of Honorary Colonel, and received the V.D. decoration.

Mr. E. R. Hewitt, A.R.I.B.A.

The late Mr. E. R. Hewitt, A.R.I.B.A., who died on October 13 at the age of sixty-five, was well known as a District Surveyor for certain parts of South London. An appreciation of his character appears in our Editorial pages. One who knew him

intimately adds the following testimony to his sterling worth. Its writer describes it as a brief tribute to his memory written in minutes snatched from the scanty mealtime of a munition factory by an erstwhile consultant engineer whose name may perhaps be not unknown to some of our readers. "One of the most striking characteristics of the late Mr. E. R. Hewitt was his unaffected modesty. As one who learned much from him whilst nominally giving advice I can truthfully say that very few men could have known as much as he did of structural mechanics, and at the same time believe that knowledge to be so small. A delightful water-colour artist, he only allowed me, a friend and a near neighbour for many years, to see a piece of his work once, and that almost shyly, in order to show how a half-inch interior detail could be made interesting by sketching in the view to be seen through the windows. Prior to knowing him personally I had occasion to meet him once or twice officially, and was pleasantly surprised to find that he not only met one's convenience but anticipated it, and went out of his way to protect the interest and pocket of one's client in so far as public interests allowed him to do so. His was a very charming and simple character. He would treat a poor charwoman with precisely the same old-world courtesy which he would accord to a great lady. Firm, judicious, and eminently just, he maintained the finest traditions of a public official. To meet him in business was a pleasure; to meet him privately was a delight. We have lost an official whom we can ill spare, and London and his profession are the poorer by the loss of a very perfect and kindly gentleman."

Mr. George Macfarlane.

We record with regret the death, which occurred on October 22, of Mr. George Macfarlane, who for many years had taken a foremost part in public work in the city of Manchester, and was also a prominent figure in the National Federation of Building Trades Employers, of which he was an ex-president.

Mr. Macfarlane, who was a native of Perthshire, where he was born in 1839, went to Manchester in 1854, after spending a little time at Bolton. He began business a few years later as a builder, and at the time of his death was the oldest master builder in Manchester. In 1876 he became a member of the Manchester Builders' Association, and, in due time, its president. In that capacity he took a leading part in the settlement of several labour disputes affecting the building trade. He took a very keen interest in the administration of the Poor Law. He was elected a member of the Chorlton Board of Guardians—now the South Manchester Board—in 1901, and presided over several of its committees. He afterwards became chairman of the Board, a position which he relinquished a few years ago. Mr. Macfarlane was an ardent advocate of the scheme for the amalgamation of the Manchester, Chorlton, and Prestwich Boards, and, with Mr. D. S. Blomfield, the clerk of the Chorlton Board, was one of the principal witnesses who supported, at the Local Government inquiry, the scheme to that end which has now come into operation. For many years Mr. Macfarlane was a member of the South Manchester Board of Overseers as one of the representatives of St. Luke's Ward. He was also a Governor of Henshaw's Blind Asylum, and a justice of the peace for the city. He was one of the oldest members of the congregation of Union Chapel, Oxford Road, and had held high office as a Freemason.

LEGAL.

Builder's Claim on Architect's Certificate.

Willcock and Co. v. Lady Burton and Others.

October 15. Official Referee's Court. Before Mr. Pollock.

The further hearing was resumed of the action of Messrs. Henry Willcock and Co., builders, of Darlington Street, Wolverhampton, to recover the balance of £3,500 for building St. Chard's Church for the late Lord Burton, at Hornington, Burton-on-Trent. The contract price for the church was £19,559, but the claim represented extras for which an architect's certificate would be given. The defendants were Lady Burton, Mr. J. A. James, Mr. J. Gretton, M.P., and Mr. J. Lambrick, executors of the late Lord Burton. (See our issue of October 20.)

Mr. Hudson, K.C., Mr. Disturnal, K.C., and Mr. Drysdale appeared for the plaintiffs, and Mr. Leslie Scott, K.C., Mr. Gibbons, and Mr. Bethune for the defendants.

At the opening of the sitting the Official Referee said he wished to point out that the defendants were entitled to show, if they could, that what were termed "extras" really represented work done within the contract.

Mr. Hudson did not dispute that.

The Official Referee said that the defendants were not entitled on the pleadings to say that the work claimed to have been done was not authorised. In his opinion, the question whether the work had been done or not had not been raised on the pleadings, the only paragraph which could have raised it having been struck out. Mr. Couchman, who was apparently there during the whole of the time, did not in his affidavit say that the work was not done.

Mr. Gibbons upon that asked to be allowed to amend the pleadings.

A long argument ensued, which resulted in the Referee deciding that the amendment might be made upon terms which would involve the payment of costs by the defendants.

Mr. Gibbons was unable to undertake the payment of costs without consulting the executors, and asked for an adjournment to enable him to do so.

The case was then adjourned for defendants to decide whether they would amend or not, upon the understanding that defendants would pay the costs of the day.

Combined Drainage: Single Private Drain.—Judgment.

The Mayor, etc., of the City and County of Kingston-upon-Hull v. The North-Eastern Railway Co.

October 20. Court of Appeal. Before the Master of the Rolls and Lords Justices Bankes and Warrington.

The reserved judgment was delivered in this case, which raised the important question of whether the main conduit pipe by which certain railway cottages at Dairycoates are connected with the sewer in Hessle Road, Hull, is a "single private drain." It was an appeal by the railway company from an order of Mr. Justice Sargant, in an action brought by the Mayor, etc., of Kingston-upon-Hull, for a declaration that they, as sanitary authority, were entitled to a sum of £91 13s. 9d. incurred in executing certain works in connection with the main conduit pipe. (See our issue of October 20.)

Mr. Walter Ryde, K.C., and Mr. Konstam appeared for the appellants, the railway company, and Mr. P. O. Lawrence, K.C., and Mr. R. A. Glen for the respondents.

The Court held that the main conduit pipe by which the railway cottages in a cul de sac at Dairycoates were connected with the public sewer in Hessle Road was a single private drain, and that expenses incurred by the sanitary authority in doing the work to it were chargeable on the property drained.

The Master of the Rolls, in giving judgment, said the sanitary authority did work to the main conduit pipe in question and now they claimed to be repaid. The question for decision was whether (as the local authority contended) the conduit pipe was a "single private drain" within the meaning of section 49 of the Kingston-upon-Hull Corporation Act of 1903. He thought Mr. Justice Sargant had rightly decided this in favour of the local authority and that it was a "single private drain." It was said there was no case in which a drain under a public road had been held to be a single private drain, but in his view there was no evidence that the road in question had been dedicated to the public. Therefore he thought the appeal failed.

Lord Justice Bankes concurred, and said in his view the conduit pipe in question fulfilled all the essential conditions of a single private drain within the meaning of section 49 of the local act. It was single, it was private, it was connected with two or more houses belonging to the North-Eastern Railway, and it conveyed the drainage of such houses to the public sewer.

Lord Justice Warrington in his judgment said that if this were held not to be a single private drain it would render the whole of section 49 of the private act passed in 1903 inoperative.

The appeal was accordingly dismissed with costs.

BUILDING REGULATIONS AND WAR'S AFTERMATH.

At last week's meeting of Perth Town Council discussion took place regarding a proposal by Mr. A. Wright that a committee be appointed to revise or modify the Dean of Guild Court regulations. It was explained that complaints had been received, and it had been suggested that the stringency of the regulations was the reason that so little building had been going on in the city.

Baillie Beaton, in seconding, said that when the war was over they looked forward to having better building facilities in Perth than they had at the present time. He thought this was the right time to set their houses in order. They wished that artisans should own their own cottages, and they would like to see cottages built around their town.

Mr. Wright's proposal was agreed to.

The opinion of the Council was asked on the resolution adopted by Glasgow Town Council in favour of petitioning Parliament to pass legislation giving power to acquire land in the neighbourhood of industrial centres for the establishment of small land holdings, to be taken over by men maimed in the war or men who did not desire to return to their old occupations.

A suggestion was made that the principle of the proposal be approved.

Baillie Allan, in proposing that the matter be delayed for a month for consideration, said he did not believe the Government would be able to look at legislation for the land for a long time, unless it was in connection with the land of their enemies.

Treasurer Clark held that it was a political question, but a great economic question. They must deal with the aftermath of this great war.

Ultimately it was agreed to adjourn consideration for a month.

TRADE AND CRAFT.

Osram Lamps and the Air-raid.

The extreme strength of Osram domestic wire lamps has been demonstrated many times, but there are few more striking examples of it than those recorded in the letters reproduced below. With the exception of a few minor excisions by censor, these letters are reproduced in form received from the senders. They afford the most convincing proof of the durability of these lamps under an extraordinarily severe test.

Copy of Letter to Osram-Robertson Ltd., Works, Hammersmith, London, W.

"September 15, 1915.
"Dear Sirs,—On the night of July 12 last my house was struck by a shrapnel bomb thrown from a Zeppelin, and so wrecked as to render it unsafe to dwell in, and my surveyor advises that the only course to adopt in the way of repairs will pull down to the ground level and rebuild."

"For your information, I may say two years ago I had the place fitted with electric light throughout, when a dozen of your thirty-two candle-power metal ment lamps were put in and had been in use constantly up to the time of the raid. After the house had been struck and in the course of the removal of furniture on the following day, we saved every lamp sound, and they have been moved from the fittings and stowed away with the furniture."

"If you care to send a representative down to ——— I shall be very happy to show him the house and also the lamps, but whatever you do I feel bound, in business, to let you know my experience of the quality of your goods."

"Yours faithfully,
(Signed) ———"

Copy of Letter to Mr. Joyce (The General Electric Co., Ltd.)

"September 22, 1915.
"Dear Mr. Joyce,—I attended this morning a house in the London district which a recent nocturnal visitor had dropped on its card."

"My business was to report on electrical damage and rectify."

"I found windows and doors demolished, an iron safe, weighing many hundred weights, wrenched out of position, cracked down, and joists hanging, and bricks badly damaged. But the Osram lamps, living up to their high reputation, have survived the shock of their lives, and are absolutely intact, even though the shades were smashed to fragments."

"Yours faithfully,
(Signed) ———"

These letters render comment entirely superfluous.

The Tribunal of Appeal.

The Council of the Surveyors' Institution have nominated Mr. Howard M. past president, 27, Chancery Lane, as the representative of the Institution on the Tribunal of Appeal under Section 10 of the London Building Act, 1894, the vacancy caused by the death of late Mr. Herbert T. Steward.

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ANTIQUE URN, WITH DETAILS OF ORNAMENT.

(From Piranesi.)

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TOTHILL STREET, WESTMINSTER.

VOLUME 42. No. 1087.

EDITORIAL.

THE funeral of Mr. George Macfarlane, J.P., whose death was announced in last week's issue, took place on October 26, at the Southern Cemetery, Manchester. As Mr. Macfarlane was personally known to us, and took a keen interest in the Journal, we cannot refrain from adding our tribute of respect for a man whose whole life and character compelled the affectionate regard of all who had opportunities of meeting him. Genial, generous, and kindly natured to an uncommon degree, he could nevertheless, on occasion, blaze forth into fiery Celtic denunciation of anything that he conceived to be wrong or mean, and in such outbursts at public meetings his speechmaking, ordinarily somewhat lacking in fluency, would rise to a high pitch of eloquence, and we have more than a suspicion that some of his colleagues on the National Federation, for instance, would introduce inflammatory or stimulating topics with the deliberate object of provoking him to real oratory. As we said in the spring of 1912, when the Manchester, Salford, and District Building Trades Association, and friends engaged in the building industry throughout the country presented him with an illuminated address and sundry gifts in token of their admiration and affection for him, he was emphatically "The Grand Old Man of the Building Trade," and the gifts were a spontaneous expression of strong personal regard, as well as of gratitude for long, strenuous, and self-sacrificing services in many an excellent cause. Connected with the building industry for well-nigh five-and-forty years, he was in every way an honour to it, and it is gratifying to be able to chronicle the fact that "he had received all the honours, both local and national, which the building trade could confer upon him."

A facetious judge made, the other day, a time-worn observation on a peculiarity of the roads. It was to the effect that as soon as they have been nicely surfaced, somebody is sure to come and dig them up. There is to-day less point in the sarcasm than there was when the various road-breaking authorities seemed to delight in undoing the work of the authorities entrusted with the obligation of repair. Disorderly or topsy-turvy procedure had become a by-word. It used to be said that the water authority would postpone its operations until the local authority had provided it with a surface worth spoiling; that the gas company would then lie in wait until the water company's depredations had been made good; and that the electric-light men found an unholy zest in creating a fresh disturbance. As for the sewer-men, they invariably delayed their major operation until all the wounds previously inflicted on the long-suffering road had been healthily healed. When they had done, then *da capo*, until some unfortunate roads seemed to be eternally "up." Matters have improved somewhat since the water authorities were consolidated, but the

judge's jest has not altogether lost its point, and wastefulness and inconvenience it satirises should come to a graceful end in obedience to the imperative demand for national unity and national economy. Here, as in every possible instance, antagonism must give place to co-operation.

That demand is duly emphasised in the fifth annual report that has just been issued by the National Highway Board, in which it is noted that a decrease of £59,000 in the amount applied for with respect to road works was probably due to an intimation given to highway authorities after the outbreak of the war to the effect that the Board were not prepared to continue making grants during the war to the same extent or on the same basis of distribution as in previous years. An insistent note of the report is that "the Board have pledged themselves to make grants unless disarranged by arising from lack of employment should occur," and it is added that at the present time the Board are not prepared to entertain any applications for widening, diversions, new roads, and bridges, or the reconstruction of bridges, but schemes of this character may be prepared and sent forward, so that they may receive consideration and be ready for commencement when the Board are able to resume making grants on the lines of their ordinary procedure. At the same time the Board fully realise the necessity, now greater than ever before, of keeping highways in a thorough state of efficiency, and are therefore disposed to make grants towards the cost of road-trust improvements which are immediately required; "but, unless special circumstances can be shown, such grants will be on a considerably reduced scale, and will only be made in the case of important roads, the improvement of which cannot be properly postponed."

Furthermore, the extraordinary wear and tear to which roads have been subjected, the necessity for the reconstruction of certain private roads, and for the formation of other new roads—conditions that have been created by military requirements—are exigencies that have been met in consultation with the Local Government Council, who will naturally contribute to the cost. The fact that is done in war-time does not necessarily set up a precedent for observance in times of peace; yet the strain of strenuous times often bursts through strong barriers and overcomes obstinate inertia. In fact, no emergency seems more likely to happen as a result of the war than that our highways will be in future constructed and maintained with a view to War Office needs, and that will be achieved an important step towards the nationalisation of the highways which has been so long advocated with some foresight of the present mobilisation contingencies, but more particularly with the view of ing that the burden of maintenance of national

s, or sections of them, should not in any instance be allowed to rest on the shoulders of a local authority. Measure of relief was assured when the Road Board came into existence, but an equitable extension of the principle may well ensue as a result of the war.

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to what extent the new conditions will affect town-planning is a subject of facile and more or less idle speculation. If, in future, "The King's Highway" is to come very largely under the control of the War Office, the outlook for mere amenity is not very promising. Mere utility will be the first, last, and intermediate consideration, and the engineer will gain the support for his extreme prejudices. True, this may anticipate trouble; but trouble that is anticipated may be averted, if vigorous and timely steps are taken to intercept and counteract it; which is an advantage meeting troubles half-way." And, after all, this country is not Prussia; and although it may be desirable to invest our naval and military administrations with greater power as "lords of the sea and the air," incidentally of the highways, it does not follow that they will abuse it, or, in particular, that they will be so unwise as to discredit or ignore the fine body of town-planning knowledge, skill, and opinion, that is always will be available for adoption in the best interests of the country.

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with peripatetic statues we are all familiar, and it did appear that windows with story might have also wanderings. Thus it is, at any rate, with what is, as it were, the southern window of St. Margaret's, Westminster. First it came across the sea. Made in France, and sent by the magistrates of Dort as a present to Henry VII., it was meant to be placed in his chapel at Westminster Abbey, but the King died before it could be set up, and Henry VIII. gave it to Westminster Abbey. Afterwards it was owned in turn by Elizabeth, Thomas Ratcliff Earl of Sussex, the Duke of Buckingham, Oliver Cromwell, the Duke of Buckingham, and General Monk. In troublous days preceding the Commonwealth, it was buried, lest a worse fate should befall it at the hands of fanatics, whose attitude towards art was not very sympathetic. At length, in 1758, it came into the possession of the churchwardens of St. Margaret's, and thus, as the rector of that church, Canon Pegib, remarks, "After wandering about for some three hundred years, it came back at last to within fifty feet of the place for which it was originally intended by Henry VII." It has now been taken down to be exhibited in some place of safety that is not specified to the general public. This is doubtless a very proper precaution against the possible depredations of enemy agents, whose most effectual function seems to be the breaking of glass, but, seeing the risks of removal and the statement, it is a pity that some less drastic measure of protection could not have been found.

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prose and "worse," quarries have often received a variable or dishonourable mention; generally the blame, because the lonely disused quarry lends itself so easily to the malevolence of the villain of the piece. Perhaps for the first time in literary history, a quarry takes first prize, and, as befits a hero of romance, its name as the title of the story. "Old Delamore" is an excellent story, too, written by no less a novelist than Mr. Eden Phillpotts, who, as he declares, has made of the ancient North Cornish quarry "an animate and exciting thing." And what not? Simple folk have been eons before him in visiting quarries with a human interest, or with a sort of man personality; and it is not for nothing that the sizes of slates are known as princesses, countesses, and ladies. As a piece of fine description, Mr. Phillpotts's account of the land-

slide that overwhelms the quarry may possibly take rank with Thomas Hardy's famous sheepshearing scene. To say this, however, is to compare things that are totally unlike except in vivid power. Architects, however, will feel grateful to Mr. Phillpotts for casting a glamour over the otherwise unromantic details of slating specifications.

* * * *

That there is much—indeed, very much—to be said on both sides of the rent question is shown in the voluminous correspondence on the subject that is still taking place in the newspapers. On the whole, the most reasonable letter that we have seen on the subject is one that was signed "A Property Owner" in the "Birmingham Post." He puts his case very temperately and very logically. "The unjust and exceptional treatment which property owners have received during the last ten years," he says, "has undoubtedly caused the present severe house famine. Investors won't buy, therefore builders can't sell, therefore building cannot proceed." This is a terse and telling restatement of the argument that has been many times put forward in these columns. Antiquated land and property laws have been intensified and complicated, rather than neutralised or nullified, by well-meant but short-sighted legislation, until private enterprise has been severely checked, whilst the endeavour to supplant it by public provision has been conspicuously unsuccessful; for while coming into unfair competition with private ownership, it has not had a general effect in lowering rents, nor of contributing in any marked degree towards the solution of any single phase of the housing problem, except, perhaps, in some few instances, that of superior construction—and that certainly is a consideration that we should be the last to belittle.

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A rather striking illustration of the besetting English apathy towards art is brought into prominence somewhat paradoxically by an instance to the contrary. Sir Frederick Green, of the Orient Line, has presented to the Royal Exchange a new decorative panel. He is to be congratulated not only on his public spirit, but on the character of its manifestation. But it happens that although the first panel to fill one of the twenty-three niches for paintings in the Exchange—"The Phœnicians Trading With the Early Britons"—was painted and presented by Lord Leighton twenty years ago, several spaces still await attention. That the commercial headquarters of the richest of all countries should be thus callously neglected is little less than a national disgrace; and unfortunately Sir Frederick's excellent example comes at a time when it is but little likely to be followed.

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Tite's building having been put up in 1842-4, it is about time that its interior decorations were finished. Sixty years or so ago, when the Exchange was by no means the symbol of plutocracy that it has since become, those concerned in it were almost anxious for its adornment. Westmacott was engaged to fill the tympanum of its Corinthian portico with Commerce and her tributaries—an Indian, an Arab, a Greek, a Turk—and a Lord Mayor! Then there are a statue of Queen Victoria by Lough, of Queen Elizabeth by Watson, and of Charles II. Wellington, Sir Roland Hill, and George Peabody are commemorated in effigy; but Gibson's fine statue of Huskisson was given by Lloyd's to the London County Council, who seemed very unwilling to deprive them of it, and have not the least notion what to do with it. Mr. E. A. Cox, the painter of the new panel, was for some time in the studio of Mr. Frank Brangwyn, and he has treated his subject—"The Charter of Philip the Good of Burgundy"—with the Brangwyn breadth and boldness, this fine essay in fresco revealing that he has nevertheless a strong individuality of his own.

HERE AND THERE.

BEFORE the architectural casuist the architectural recruiter. We all know what matters most, the War, and men for the War; and during this past week we have seen the King's appeal, in goodly letters on a placard, and we have seen also Lord Derby's straight letter, in which he says:—"Ask yourself whether, in a country fighting as ours is for its very existence, you are doing all you can for its safety, and whether the reason you have hitherto held valid as one for not enlisting holds good at the present crisis." That is a grave question for every man, especially for those who are single. Architects and their assistants have, we know, responded nobly to the call, but not all have gone who might go, who ought to go, who will be made to go, in the event of the present great voluntary rally not giving the numbers that are needed. I was walking through a museum a few days ago and noted some young fellows measuring up Jacobean woodwork. It is a question whether Jacobean woodwork is worth measuring up at any time, but certainly at this great crisis in our lives it is a miserable occupation for a young man who is physically fit, and free to join in his country's defence. Admittedly the national pot has to be kept a-boiling, and the trade of the country maintained in as flourishing a state as possible—for if this is a war of armies in the field and the workshop, it is no less a war of finance, resting on trade stability; but in no respect can it be urged that the Jacobean woodwork measurer, the art student intent on Paul Veronese, Botticelli, or Whistler, the architectural student working on a design for a national memorial or an aquarium on a detached site, the assistant in an architect's office where nothing is doing—in no respect can these be regarded as helping to keep the trade of the country going. It is to such especially that Lord Derby's question applies at the present moment. It is a searching question, but no man worth his salt will burke it if he knows himself free and fit to go.

In the "Correspondence" column of this Journal last week an architect expressed a view in regard to the use of classical motifs with which I am very much in agreement. The point was, that the projected designs for decorative friezes and panels in London County Council schools, to be executed by artists suffering from the War, should be modern in feeling, and not a rechauffé of the classical stock-in-trade. "When we come to commemorate the achievements of this War," he said, "we should put aside the usual Victories, Fames, and the rest . . . and substitute for them some definite, tangible record of the actual men of the nation we belong to. A great nation in a great War should have no occasion to turn to the Antique for its models." My readers will know that I am not one with those who believe in discarding the past, wholesale, and starting from a new basis. There are some things which have been done so well that they cannot be improved upon; certain compositions, certain features of architectural design and decoration, which have become established as a grammar of design. If you put aside these things you only proclaim yourself to be foolish and ill-mannered. There is good English and bad English, and you cannot attain a fine result by the simple process of abusing all the canons. And that is why, in architecture, I am against the individualist. He wants to do everything fresh, stamped with his own personality, "the living touch," but we who do not agree with him look upon his work, and had far rather have what he has almost contemptuously discarded. That is why I prefer to live in a neat little house of the early nineteenth century, with its white trellis porch, its plain front, wide eaves, and thin window bars, rather than in a frisky garden-city house of the customary type, be-gabled, be-barge-boarded, be-rough-casted, and generally

be-worried out of all semblance to "the simple life." But I will admit nevertheless that the garden-city architects have been driven to this sort of thing by way of reaction from the dullness of dull classicism. And commercial exploitation of "period designs" has helped things. We of the present day have no caput ourselves in the midst of the Tudor kitchen, Stuart withdrawing room, or Marie Antoinette boudoir. And above all things we wish to avoid repetition of features which were mere whims and fashions of a few years in another country and another century.

So we come back again to the original charge against the classical stock-in-trade. One really grieved of the Vulcans, the Hebes, the Mercuries, the airily poised Victories with their wreaths and trophies, the palms, the muscular amorini, the over-fat cherubs, the whole mythological host disporting themselves in the true mythological style, regardless of the sanitation of the proprieties. Just as all good Americans, when they die, go to Paris, so all things architectural for the last two hundred years have come from France, especially from eighteenth-century France. It is there that the classical stock-in-trade was got together and afterwards brought over to our own country in fashions for heroes and ruins, fashions for soldiers and herdesses and bowers. There is a letter by Horace Walpole, written from Paris in December, 1765, to the Countess of Suffolk, which is worth quoting in this connection. "Yesterday," he begins, "I dined at Borde's, the great banker of the Court. Lord! how little and poor all your houses in London will be after his! In the first place, you must have a garden half as long as the Mall, and then you must have fifteen windows, each as long as the other half, look into it, and each window must consist of only eight panes of looking-glass. You must have a first second ante-chamber, and they must have nothing but them but dirty servants. Next must be the *grand cabinet*, hung with red damask, in gold frames, covered with eight large and very bad pictures, each cost four thousand pounds. I cannot afford them, a farthing cheaper. Under these, to give an air of lightness, must be hung bas-reliefs in marble. Then there must be immense *armoires* of tortoise-shell and ormolu, inlaid with metals. And then you may go to the *petit-cabinet*, and then into the *grand salle*, and gallery, and the billiard-room, and the eating-room, and all these must be hung with crystal lustres and looking-glass from top to bottom, and then you must stuff them fuller than they will hold with granite tablets and porphyry urns, and bronzes, and statues, and vases, and the Lord or the devil knows what. But fear you should ruin yourself, or the nation. Duchesse de Grammont must give you *this*, Madame de Marsan *that*, and if you have anybody who has any taste to advise you, your eating-room must be hung with huge hunting-pieces in frames of coloured golds, and at the top of one of them you must have a setting dog, who, having sprung a woodcock, may be flying a yard off against the wall. To warm and light this palace it must cost eight-and-twenty thousand livres a year in wood and candles." This is hardly the model for Suburban life. The setting is different, the atmosphere wholly different. But it will not do to push the extension too far, to get involved in an alarming argument which makes furniture and panelling *torchères* and writing tables, take on the vices or the qualities of French Court life; for on that basis we should not go about touching all things architectural with a moral wand, and in the end, though it might please us to be good moralists, we might be very bad architects. And that is just where the point of the argument comes in.



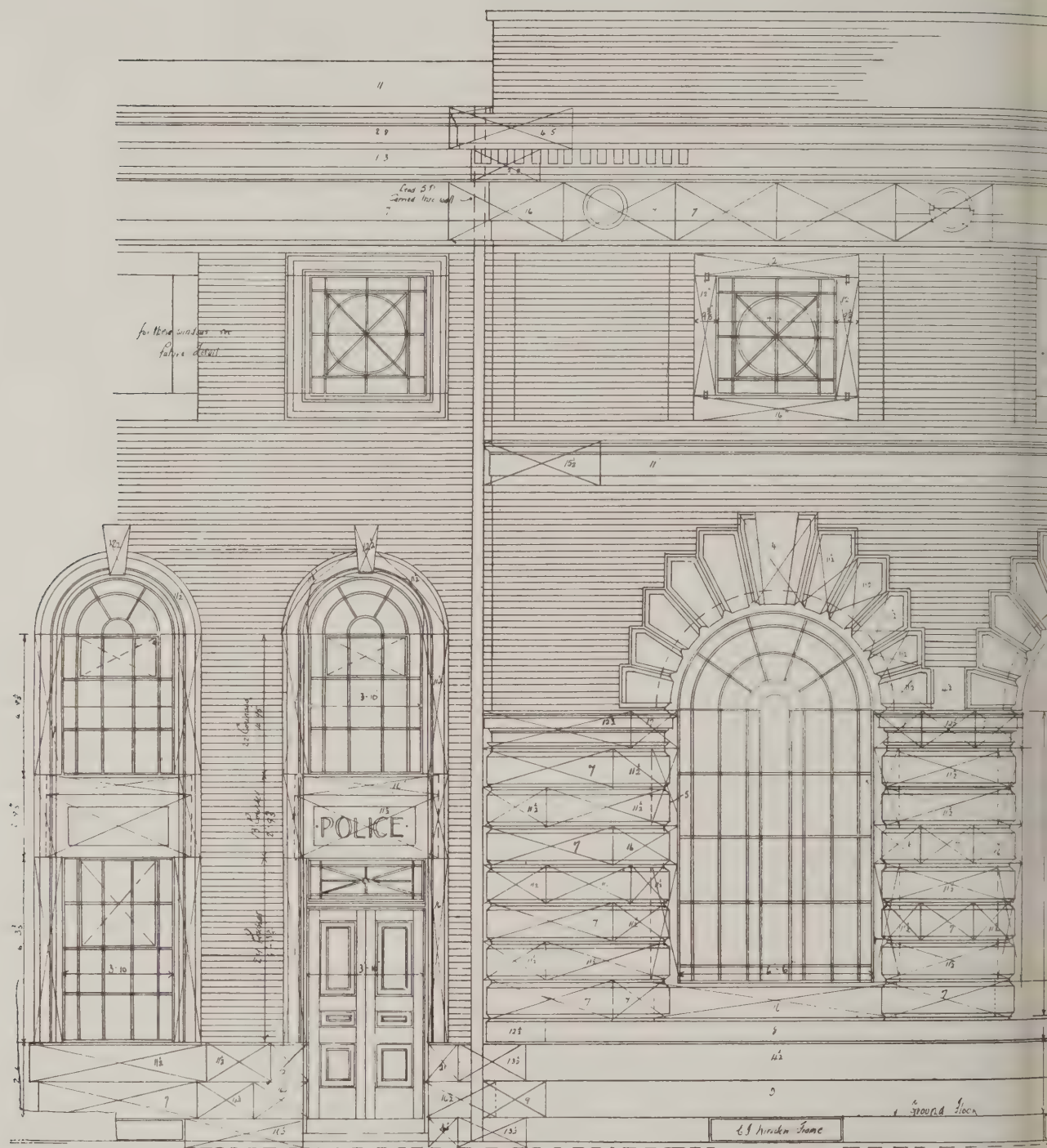
Photo: Bedford Lemere & Co.

CURRENT ARCHITECTURE (SERIES III.). II.—BUSINESS PREMISES, GOLDEN SQUARE, LONDON,

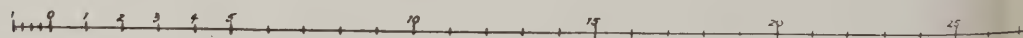
LEONARD STOKES, F.R.I.B.A., ARCHITECT,

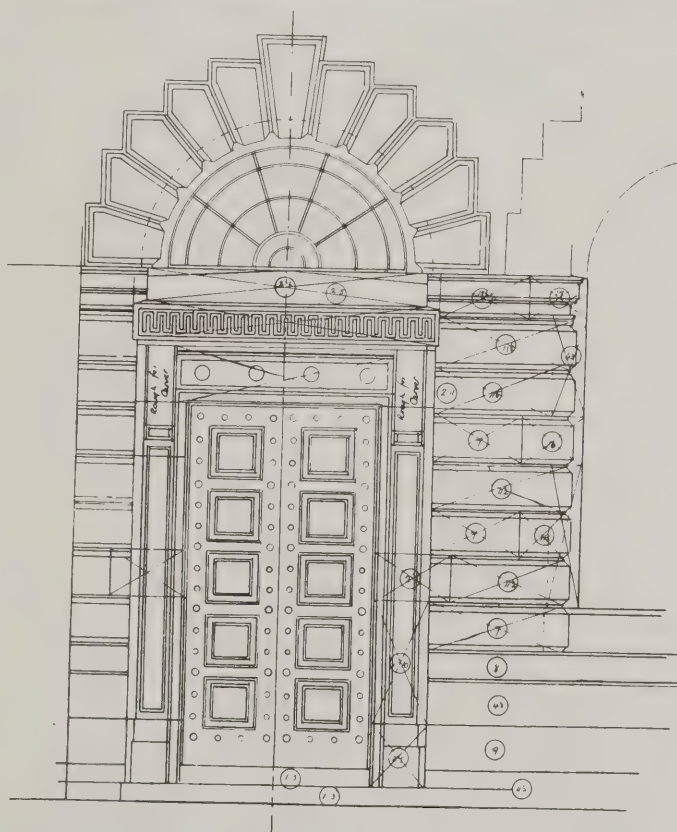
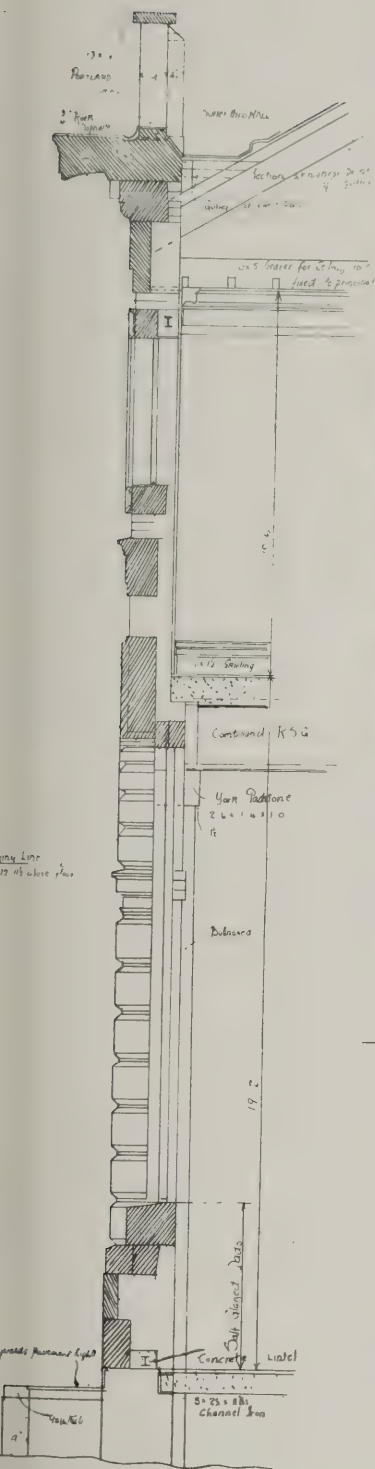
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ELEVATION





DETAIL OF PARADE ROOM DOOR

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CURRENT ARCHITECTURE (SERIES III.). III.—NEW POLICE BUILDINGS, STOCKPORT: PARADE ROOM DOORWAY,
HALLIDAY AND PATERSON, A.A.R.I.B.A., ARCHITECTS.



Photo: Cyril Ellis.

CURRENT ARCHITECTURE (SERIES III.). IV.—NEW CHURCH AT BOURNEMOUTH: INTERIOR, LOOKING EAST.

G. GILBERT SCOTT, F.R.I.B.A., ARCHITECT.

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Photo: Bedford Lemere & Co.

DETAILS OF CRAFTSMANSHIP. XXXVIII.—SIDE TABLE IN BALL-ROOM, CARRINGTON HOUSE, WHITEHALL, LONDON.

SIR WILLIAM CHAMBERS, ARCHITECT.



SMALL HOUSES OF THE LATE GEORGIAN PERIOD (SERIES II.). IX.—HOUSE AT HORSHAM, SURREY.

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STUDENTS' DRAWINGS (SERIES II.). V.—DESIGN FOR MUNICIPAL BUILDINGS, LIVERPOOL.

BY B. A. MILLER.

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THE PLATES.

Business Premises, Golden Square, London.

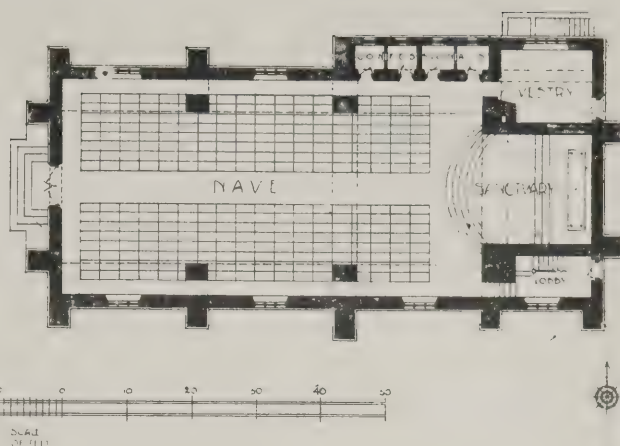
THIS building has been erected for Messrs. A. Gagniere and Co., Ltd., wool and silk merchants, from designs by Mr. Leonard Stokes, F.R.I.B.A. A plan of the ground floor is reproduced below. The building is of steel-frame construction faced with Portland stone.

New Police Buildings, Stockport.

A portion of these new buildings shown by the illustrations comprises the police parade room on the ground floor, and recreation rooms, bathrooms, mess-rooms, etc., on the upper floors. The old Court House has been retained, and the cells and police offices are at the back part of the site, as seen in the cross-section on page 201, which is of special interest as illustrating the extraordinary difficulties created by the difference in levels; it was necessary to excavate about 5,000 cubic ft. of red sandstone. The cost of the building was about £13,000. Messrs. Halliday and Son, A.A.R.I.B.A., of Manchester, were the architects, and Mr. Mark Lane, of Stockport, was the contractor. It is not desired that we should publish a

Catholic Church, Bournemouth.

THIS church is built of small red bricks, with Bath stone dressings. It has a flat zinc roof. The interior is plastered and has Bath stone dressings and red tile and field bands on the arcade piers. The paving in the nave and transepts is of red-and-white tiles. There is wood panelling round the nave, painted red. The floor of the sanctuary is in dark and light grey stone.



CATHOLIC CHURCH, BOURNEMOUTH.

G. GILBERT SCOTT, F.R.I.B.A., ARCHITECT.

The roofs are painted, the predominating colour being red in the nave and blue in the sanctuary. A peculiar feature of the design is the great difference in height between the sanctuary and transepts and the nave. The choir are placed in galleries on either side of the sanctuary, connected by a passage-way on the east wall and worked into the design of the reredos (which has not yet been executed, the present hangings being a temporary expedient). The altar is in alabaster with inlaid marbles; it was executed by Messrs. Farmer and Brindley. Accommodation is provided for 280 worshippers. The cost of the church was £4,250. Mr. G. Gilbert Scott, F.R.I.B.A., of London, was the architect, and Messrs. J. McWilliam and Son, of Bournemouth, were the general contractors.

Side-Table, Carrington House, London.

The decorative work of Sir William Chambers is not sufficiently known to architects, and on that account this detail of a side-table will be especially appreciated. It is a very fine specimen of the architect's skill in interior decoration and fittings. Carrington House, Whitehall, was built about 1770 for Lord Gower; it no longer exists, having been pulled down in 1886. The ball-room was on the first floor, and must have presented a splendid appearance when filled with its brilliant assembly of distinguished men and women of the day.

House at Horsham.

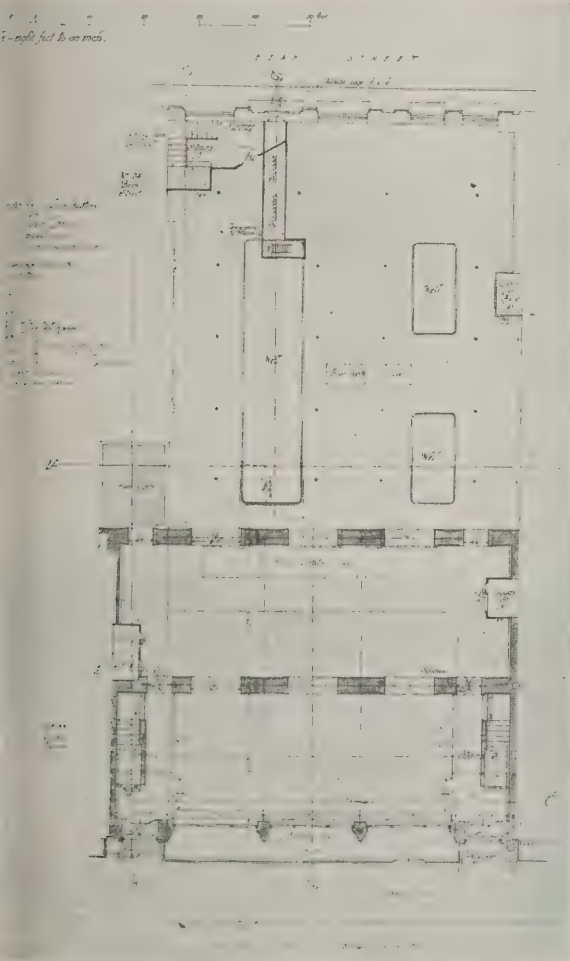
This is a typical late eighteenth-century cottage showing a pleasing proportion of window and wall space. Although a building of the simplest description, the care taken with the details is very noticeable.

Design for Municipal Buildings, Liverpool.

This design is by Mr. B. A. Miller, of the Liverpool School of Architecture.

GOVERNMENT INQUIRY INTO
INCREASED RENTS.

AT Glasgow, on October 26, Lord Hunter and Professor Scott opened the Government inquiry into the increases of rentals of small dwelling-houses in industrial districts in Scotland. It was mentioned that empty houses in Glasgow, which in 1914 numbered over 13,000, had since decreased to about 9,000. Mr. Walker Smith (Local Government Board for Scotland) stated that English working men had 40 per cent. better housing accommodation than Scottish workmen and only paid 13 per cent. more. Private enterprise in building working-class houses had been stagnant in Scotland for seven years, the reasons given being recent and anticipated legislation on lands and property, scarcity of labour, and dearness of materials.



BUSINESS PREMISES, GOLDEN SQUARE, LONDON:

GROUND-FLOOR PLAN.

LEONARD STOKES, F.R.I.B.A., ARCHITECT.

THE EVOLUTION OF THE EMPIRE STYLE IN FRANCE.

THE men of the Revolution, occupied with necessities without number—the pacification of France, the expulsion of the foreigner, and the organisation of a new society—had not time to raise lasting buildings. When Napoleon became Emperor and sovereign master, in spite of the wars which made him hated of the French and foreigners, they were able to dispose of more time for making known their desires. The Classic style began to affirm itself with increasing strength, and its ardent representative, David, then official painter, became predominant in matters of Art. This style became still more accentuated under the influence of Vivant Denon, Director of the Museums, who was also very enamoured of the traditions of antiquity, and had been for some time Keeper of the Cameos and Engraven Jewels of the Pompadour; he had been one of the first to popularise, by means of engravings, the discoveries made in Italy at the end of the reign of Louis XV. To the influence of these two men was added that of the architects Percier and Fontaine, who were impregnated with the sentiment of antiquity. But Egyptian art, brought into fashion as a consequence of the Egyptian expedition, also began to enter in line with Classic art. Lotus flowers, Oriental palm-leaves, and pylons, had their influence in the decoration of monuments, as well as in that of furniture, the bronze ornaments of which bear all the characteristics of the souvenir of these ancient works. Although these marvels of Egyptian work appear almost grotesque when represented on timepieces in the form of pyramids, or the torches in form of obelisks, yet the palm-leaves and the lotus, the winged victories, possess a special charm when employed by Percier and Fontaine in their architecture, as, for example, the Grand Galerie of the Louvre, or when Prud'hon employs them to decorate the furniture of the Empress Marie Louise, or the cradle of the Roi de Rome.

Monumental art shows itself in the construction of the Madeleine, due to Vignon (1739-1811); the riverside façade of the Chambre des Députés, the work of Poyet; the Colonne Vendôme raised by Lepère (1762-1844) and Gondouin (1737-1818) under the supervision of Vivant Denon; and at length in the Arc de Triomphe, commenced by Chalgrin, author of the monumental staircase of the Palais du Luxembourg. The Arc de Triomphe of the Carrousel, a monument remarkable for the excellency of its sculpture and as a skilful reconstitution from the antique, is due to Percier and Fontaine. These architects continued also the Palais du Louvre, and its interior decoration—comprising a staircase, which unfortunately has been destroyed—with sufficient taste and skill to avoid want of harmony with the older buildings. These two remarkable men were not only clever architects, but were also, and of necessity, exquisite designers of furniture. Pupils of Antoine François Peyre, and both Prix de Rome, Percier (1764-1838) and Fontaine (1762-1853) were bound to each other by close friendship when they returned to Paris in 1792. This moment was, undoubtedly, a most unfortunate one for architects. There were few monuments to erect, and none to repair. Percier and Fontaine turned themselves towards industry, designing models of furniture for the celebrated cabinet-maker Jacob.

The Empire was proclaimed and work of building with it; but these artists did not abandon their work of the earlier unfortunate days, work which others might have considered unworthy of their talents, but continued to design the fine articles of furniture of the Empire, some of which form the glory of the Palaces of Trianon, Compiègne, and

Fontainebleau, executed from their drawings by celebrated Jacob Desmalter, furnisher of the Convention, and later on of the Emperor and all Royal Courts. It was Jacob who also executed Vivant Denon, from the designs of the latter, furniture of celebrated Egyptian style, of which bedstead was one of the most curious and remarkable specimens. It was supported by four lion feet, and three of its sides were encrusted with silver bas-reliefs, representing on the left the figure of Isis placed above a scalloped hemicycle, on the front thirteen kneeling figures, and on the third side, on the angles, heads of Urens, sculptured in mahogany with silver ornaments.

Another skilful workman was Bieunais, sculptor of small ornaments, who, gold and silversmith as well, executed, after the designs of Percier, the sword and sabre hilts destined for the Emperor. Also Thomaire and Odier, who, with the aid of the modeller Radiquet, executed, after the drawings of Prud'hon, the cradle of the Roi de Rome—that unfortunate son of Napoleon—to-day preserved at the Imperial Treasure-House of Vienna, and the silver toilet requisite offered to the Empress Marie Louise by the City of Paris.

This work certainly no longer possessed the grandeur of the Regency period, nor the delicacy of the furniture of the Louis XIV. epoch, the work of the Reisener, who died forgotten, or that of the celebrated Gouthière, who, old and wretched, passed the last years of his life in an almshouse; but it possessed a charm which resisted all criticism—a charm and character which French furniture seems to have quite lost—the nineteenth-century furniture, with its heavy mahogany, its pretentious and badly-sculptured oak, and its imitations of the work of the Middle Ages, for which no indulgence can be made, especially when we compare the productions of the Faubourg Saint Antoine with the elegant and logical creations of English industry of the present time.

Pictorial and sculptural art also took a new flight; it was the epoch of the compositions of David, "Cérémonie du Sacré," the "Remise des Drapeaux," and his fine portraits of Pope Pius VI, the battle pictures by Gros, and the fine compositions of Prud'hon, "Justice Pursuing Crime"; the works of Regnault, of Guérin, and of Lithière; and in 1801 the remarkable picture by Ingres, "Œdipus and Sphinx."

The sculptors also had much opportunity to play their talents; there was the Arc de Triomphe to decorate, the bas-reliefs of the Panthéon to complete, those of the Colonne Vendôme to execute. Moitte and Roland executed the bas-reliefs of the new buildings of the courtyard of the Louvre; Moitte sculptured the old pediment of the Panthéon, which had remained incomplete, with work entitled "Country Crowning Civil and Warlike Virtues." He also executed the bas-reliefs of the Colonne de Boulogne and the Mausoleum of Desaix, on the Mont Saint Michel. Cartellier made himself famous by his bas-reliefs of the Arc du Carrousel, and Rudolphe, pupil of Gaulle, worked on the groups of the Arc de Triomphe de l'Etoile.

To give in a few words the sentiment and style of art under the Revolution and the Empire, we must especially dwell on the great and equal influence of four men—David, Vivant Denon, Percier, and Fontaine, and the events and circumstances of the epoch in which they lived. Under the Regency of Louis XVI., we see the renaissance of Classic traditions, brought about by the discoveries made in Classic lands; under the Revolution, the pain-

id strengthened these new ideas, and possessed extraordinary influence over art, first by his great talent, and secondly by his preponderance in politics. He was, however, by no means a despot, for he gained a firm friend of the Independents, Fragonard and Prud'hon. Under the Empire the talented architect Denon became the Chief Director of Art, and the Official Painter, while Percier and Fontaine, whose education had been essentially Classic, were architects, interpreters of good taste. The Revolution created the Museum of the Louvre, and displayed the marvels of antiquity to the masses; the Empire created the Order of the Legion of Honour, which was installed in another noble building.

MONUMENT TO MRS. EDDY.

WE illustrate on this page the monument to Mrs. Eddy, founder of Christian Science, which is now being erected in Mount Auburn Cemetery, New York, in accordance with the design of Mr. Egerton Swartwout, selected in competition. The memorial is estimated to cost about £20,000. As will be seen, it consists of a circular open colonnade of eight columns resting on a podium, surrounded by a circular wall, from which a double flight of steps leads down to the lake below. The scheme has no prototype, being merely a screen of columns open to the sky enclosing a flower-grown circle. White granite is to be used for the memorial, with a bronze inscription on the frieze. The detail is floral in character, the wild rose and the morning-glory being taken as the main motifs. The extreme width of the memorial is about 18 ft., the colonnade being 18 ft. in diameter and 15 ft. high.

CORRESPONDENCE.

*Architectural Association War Service Bureau:
Recruiting for the Army.*

To the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.

SIRS,—The Architectural Association War Service Bureau, which has already recruited nearly 1,000 men for the various specialised branches of the Service, is now endeavouring to raise 100 men for the 2nd London Sanitary Co., R.A.M.C. (T.).

The work required of members of the corps should specially appeal to members of the architectural and surveying professions, and others with a good knowledge of sanitary matters.

I shall be very glad to forward particulars of rates of pay, etc., to anyone sending a stamped and addressed envelope.

The War Service Bureau is still open to assist all those connected with the architectural and surveying professions, and the building trades, by supplying them with information and assisting them to enlist in those special branches of the army where their professional training is likely to be of value.

Men are also required for the Home Counties Divisional Artillery for Imperial Service; ages, nineteen to thirty-eight; aptitude for map reading, etc., is an advantage.

Arrangements will be made for parties of men enlisting through the Bureau to be kept together.

F. R. YERBURY, Secretary.

Architectural Association, 18, Tufton Street, Westminster.



DESIGN FOR MONUMENT TO MRS. EDDY, NEW YORK. EGERTON SWARTWOUT, ARCHITECT.

THE ROAD BOARD AND THE NEWER ROAD PROBLEMS.

THE Road Board, in compliance with the provisions of Section 14 of the Development and Road Improvement Funds Act, 1909, have submitted to the Treasury the fifth annual report of their proceedings, which has been published, price 9½d., by Messrs. Wyman and Sons, Ltd., 29, Breems Buildings, Fetter Lane, E.C.

The report gives a classified summary of the applications to the Board for advances during the year ended March 31, 1915. Applications were made for £2,001,264, of which £1,541,684, or 77 per cent., was for "improvement of road crusts," and £208,190, or 10.4 per cent., was for "widening, diversions, and improvement of gradients, curves, and corners."

The decrease of £592,541 in the amount applied for was probably due to an intimation given to highway authorities after the outbreak of war, which will be referred to in a subsequent part of this report, to the effect that the Board were not prepared to continue making grants during the war to the same extent or on the same basis of distribution as in previous years.

It appears that £1,087,602, or 64 per cent., of the total grants made during the year ended March 31, 1915, were for road crust improvements. The percentage is somewhat less than in previous years owing to the fact that the grant estimated at £400,000 towards the construction of the Brentford loop road from Kew Bridge to Hounslow is included in the figures for 1915. The arrangements for this work have now been completed—the Act giving the necessary powers to the Middlesex County Council for the construction of the road having received the Royal Assent on July 31, 1914.

It is not possible to classify grants and loans indicated and not yet formally made, but they are mainly for works of road crust improvement. It has been pointed out in previous reports that the experience gained by the Board as to the views and requirements of local authorities, and as to the condition and needs of roads throughout the country, has led them to the conclusion that the most pressing and the most universal need is the strengthening and improving of the crusts of existing roads. The conditions which are being brought about by traffic movements at the present time will make that need still more urgent. The great increase of heavy motor traffic on many miles of road in many districts and the difficulties which the highway authorities have found and will continue to find in maintaining their roads in water-bound macadam, point to the conclusion that practically the whole of the funds at the disposal of the Board will be required to assist the reconstruction of the heavily trafficked highways of the country, with the result that unless some additional source of assistance from national funds towards that inevitable work of reconstruction can be found, schemes of new road construction and of road widening on any extensive scale will probably have to be deferred indefinitely.

Schemes of Improvement Spread Over Several Years.

In the fourth annual report a list was given of comprehensive schemes covering programmes of work for several years which had been arranged for improving a considerable mileage of roads in fourteen counties. These schemes secure accelerated improvement of important roads and also tend to check the heavy maintenance

cost which must fall upon highway authorities who endeavour to maintain their roads in waterbound macadam after the traffic has reached a density in excess of that which a waterbound macadam surface can properly carry.

Arrangements Made on the Outbreak of War.

On the outbreak of war it was decided, after consultation with the Treasury, that in view of the conditions which it was feared might arise owing to lack of employment for labour in some districts, especially in urban areas, the distribution of grants on the lines hitherto followed should be suspended. Arrangements were then made with the Local Government Boards of England and Wales, Scotland, and Ireland, that these departments respectively should notify to the Board the districts or areas in which, owing to the existence of unemployment, it would be desirable that works of road construction or road improvement should be initiated.

Following upon these arrangements the Board communicated with the highway authorities of the areas notified as distress areas and assisted those authorities by indicating advances towards road improvement works amounting in the aggregate to £200,259, of which £205,811 was by way of grant and £3,448 was by way of loan. These figures are included in the statement of applications printed in paragraph 2, and in the various statements contained in this report showing the grants and loans indicated during the past financial year.

In addition, however, to the last-mentioned definite indications, the Board arranged with a large number of highway authorities throughout the country the particulars of works of road construction and road improvement estimated in the aggregate to cost £2,115,824, which should be carried out in the event of the state of employment for labour rendering it desirable to do so, and towards which the Board promised that they would contribute amounts which were, in most of the cases, settled with the highway authorities concerned. These conditional promises are not included in any of the statements of applications or indications which are given in this report. They have been treated merely as preparations made for contingencies which have not yet happened, and which may not happen. But in the event of distress arising in the future, owing to shortage of employment in any of the areas dealt with, the provisional arrangements already made will obviate any delay in setting in motion a considerable amount of road improvement work.

It may be added that all the works of road construction and road improvement which have been arranged provisionally are useful works, the need for which has been established, and although the Board have not pledged themselves to make grants, unless distress arising from lack of employment should occur, it will be open to any of the highway authorities concerned to make applications for grants to the approved works if and when they desire to proceed with the same, and the Board will then deal with such applications on their merits, having regard to the amounts which can in the ordinary administration of the Road Improvement Fund properly be granted to the authorities concerned.

It has been mentioned above that on the outbreak of war the Board suspended the distribution of grants except in the areas notified by the Local Government Board as

distress areas. But when the highway authorities were engaged in settling estimates of expenditure for the ensuing financial year, it became necessary to them some indication as to the conditions which they might expect to obtain from the Board towards works of road improvement. The Board, therefore, in communication with the Treasury, issued to county councils on March 17 last a circular letter stating the principles on the basis of which grants will be made during the current financial year, and arrangements are now in progress for making grants in accordance with the terms of the letter, the operative part of which was as follows: "In response to the enquiries have been received from a number of highway authorities as to the course that the Road Board intend to pursue with regard to grants towards works of road improvement to be carried out during the forthcoming financial year, I am directed by the Road Board to say that after consultation with the Lords Commissioners of Majesty's Treasury the Board propose to make grants towards the cost of road improvements which are immediately required, but, unless special circumstances can be shown, such grants will be on a considerably reduced scale, and will only be made in the case of important roads the improvement of which cannot properly be postponed.

"Councils who intend to make applications for grants will be required to satisfy the Board that they have made provision for adequate maintenance of all their important roads, and especially those which have already been improved in part under schemes aided from the Road Improvement Fund, and also that proposed improvements towards which grants will be sought cannot be postponed without either substantial public inconvenience or the risk of serious disintegration of the crust in consequence of delay in improvement.

"The Board are not prepared to entertain any applications at the present time for widenings, diversions, new roads, bridges, or the reconstruction of bridges, but schemes of this character may be prepared and sent forward, so that they may receive consideration and be ready for commencement when the Board are able to resume making grants on the lines of their ordinary procedure."

It is estimated that the aggregate amount of the grants which will be made in accordance with the terms of the above letter will be about £300,000.

It is impossible to state the amount which may be indicated during the current financial year, as that will depend on the policy of the Treasury in regard to expenditure.

Classification of Roads.

The Departmental Committee on Local Taxation recommended in their report dated March 3, 1914 (Cd. 7315), that a necessary preliminary to any alteration in the system of the distribution of Imperial revenues in aid of local taxation the roads in England and Wales should be classified.

The Board had, previously to the issue of that report, been considering the question of preparing a detailed schedule of public roads, divided into classes according to their relative importance, with a view to its use as an aid in the selection of works of road improvement towards which grants should be made out of the Road Improvement Fund. Upon the publication

f the report of the Departmental ittee, they were requested by the ent of the Local Government Board ne their proposed classification for nd and Wales on such lines that it also be used as a basis for the pro- grants in aid of maintenance expen- from the National Exchequer.

Board accordingly, on April 30, addressed a circular letter to the ls of administrative counties, non- boroughs, urban and rural districts land and Wales, inviting their assis- in the classification of all existing ys into three classes: (1) first-class; ond-class; and (3) all other roads. of this circular, together with the tions which accompanied it, includ : instructions for taking a census of at selected points on roads proposed ssification, is printed as an appendix report.

information asked for by the Board adily furnished by the highway ities, and particulars have already received from all counties, except shire, Middlesex, and Wiltshire, will enable a provisional classifica- roads to be made, as soon as the returns which are necessary for the tion of the classification of a large r of roads which may be described g on the border lines of different , have been obtained.

work of taking statistics of traffic at lected points was suspended by r issued in August, 1914, as it was s that the disturbance in the normal ent of traffic on many roads in districts created by war conditions impair the usefulness of any traffic taken under these conditions. The ation of the classification is conse- in abeyance for the present.

cial Work for the War Office.

: the outbreak of war the Board ook at the request of the Army l (1) to supervise and arrange for nstruction and maintenance at the the Army Council of certain new

roads, and the improvement of certain private roads in several districts required for military purposes in connection with camps and otherwise; (2) to arrange with highway authorities in several parts of the country for improvements on public roads, mainly at the cost of the Army Council, required for military purposes, and to supervise the execution of the improve- ments required; (3) to settle by negotiation with highway authorities the amounts pay- able by the Army Council in respect of damage caused by extraordinary traffic in connection with military movements.

In some cases the improvements required are desirable in the interests of ordinary public traffic, and in such cases the Board and the highway authorities concerned are contributing to the expenditure. The aggregate amount of the estimated cost of the improvements on public roads which have been executed or are in pro- gress up to June 30, 1915, and the contri- butions thereto of all the authorities con- cerned are shown in the following table.

		£
Total estimated cost of works mentioned above under (2)		475,669
Contributions.		
		£
Army Council	383,070	
Highway Authorities ...	30,591	
Road Board	62,008	
		475,669

In August last, in connection with a re- arrangement of the duties of some of the staff, the Board appointed their chief engineer, Mr. H. P. Maybury, M.I.C.E., as manager and engineer.

Nine members of the ordinary staff of the Board, including the assistant-secretary, who obtained a commission as lieutenant in the 16th West Yorkshire Regiment, and four members of the temporary staff, who were engaged on work connected with the classification of roads, are now serving with His Majesty's Forces.

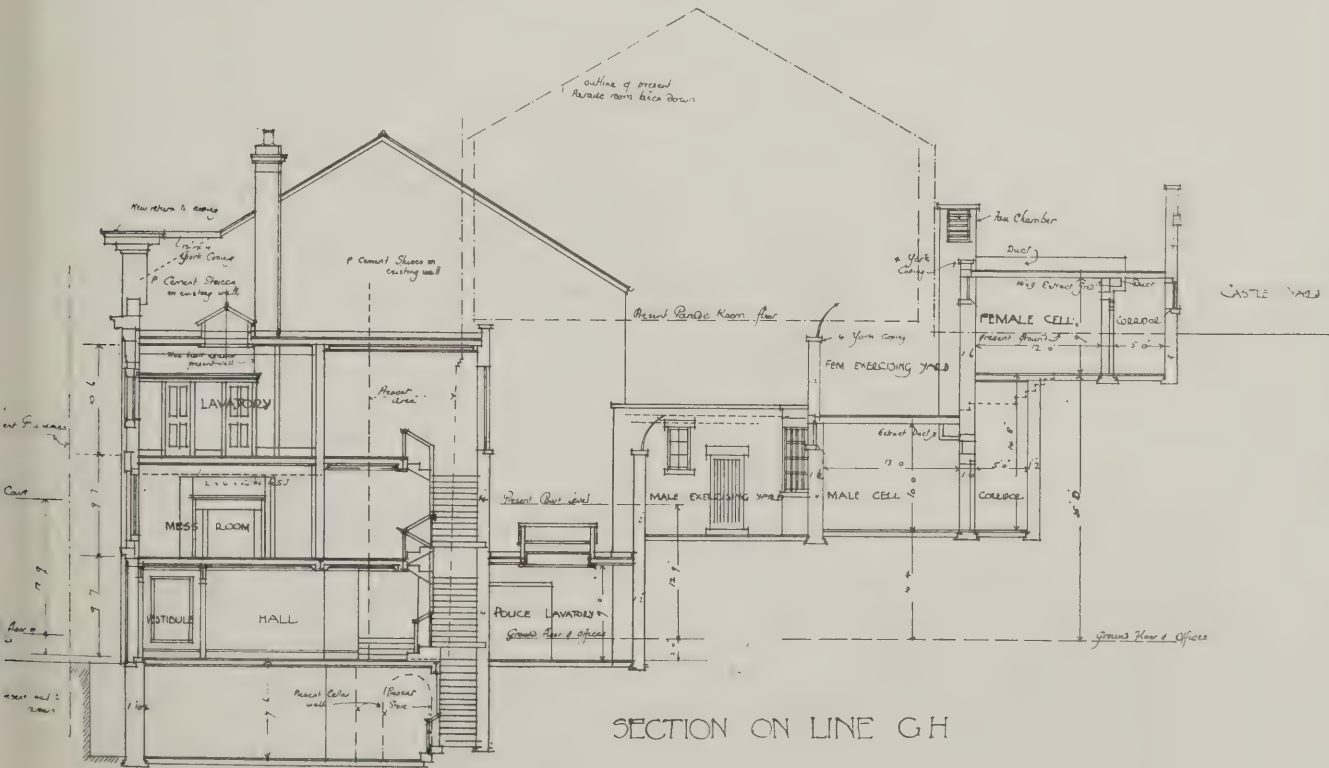
LANCASHIRE ARCHITECTS AND THE REGIONAL SURVEY.

At the opening meeting of the Man- chester Society of Architects, Mr. F. B. Dunkerley, in his presidential address, mentioned that the Architects' War Com- mittee in London had started a regional survey to find temporary employment for architects and surveyors, and he thought between forty and fifty were now engaged. It is now proposed to extend this system in the provinces, and Professor L. P. Aber- crombie, of Liverpool, was nominated to organise it in Lancashire. A meeting was held last month of the local authorities whose districts would be affected by the scheme, and a committee was formed, with Mr. Taylor, the hon. secretary, as co-director for the Manchester district. A large number of applications had already been received.

They desired to carry out the survey as far as possible on co-operative lines, but the work was not intended for men who were eligible for military service. He earnestly hoped that before the end of the session every single man who was capable of serving the country would have changed his "T" square for a rifle or a sword, as so many architects had already done in re- sponse to their country's call.

Mr. Dunkerley referred to the fact that under the will of the late Mr. Thomas Barker, who was for many years a member of the society, they would eventually come into a large sum of money. After the demise of a legatee, and after providing for certain legacies, the residue of his estate would be divided equally between the Victoria University and their society. He could not state the amount which they would inherit, but he thought he would be within the mark if he placed it at about £4,000.

Under the scheme for assisting architects and surveyors whose practice has been brought temporarily to a standstill owing to the war, four applications for survey work have been granted in the Manchester district and one in Liverpool. The main



NEW POLICE BUILDINGS, STOCKPORT. HALLIDAY AND PATERSON, A.A.R.I.B.A., ARCHITECTS.

(See page 197.)

objects of the Lancashire survey are—(1) To promote the health of the community, (2) to improve the commercial facilities of the county, these boons being primarily sought by means of more open spaces and better means of transport.

LEGAL.

Builders' Liability for Accident.

Elliott v. C. P. Roberts and Co., Ltd.

October 22. King's Bench Division. Before Mr. Justice Lush and a Common Jury.

This was an action by Mr. Sidney Elliott, a hot water engineer, carrying on business at Copley Street, Stepney, against Messrs. C. P. Roberts and Co., Ltd., builders of Tyssen Street, Dalston, to recover damages for personal injuries which he said he had sustained through the alleged negligence of the defendants.

Plaintiff's case was that on December 21, 1914, he was employed on the London County Council school buildings in Bonner Road, Bethnal Green, and that while walking across a gangway formed by two planks he fell a considerable distance, receiving severe injuries, and that paralysis resulted. His contention was that defendants were guilty of negligence in not providing a safe and suitable gangway, properly secured to prevent it slipping.

Defendants contended that the gangway was quite safe and suitable for the use of the men.

Mr. Moyses appeared for the plaintiff and Mr. McCall, K.C., and Mr. Henderson for the defendants.

The jury awarded plaintiff £2,000 damages.

Long legal arguments followed as to the legal liability of the defendants, and in the end his lordship reserved judgment on the point.

On the resumption, judgment was given in favour of the defendants, with leave to appeal.

Action by Builders Settled.

Willcock and Co. v. Lady Burton and Others.

October 25. Official Referee's Court. Before Mr. Pollock.

When the hearing was resumed it was announced that the parties had arrived at a settlement (see our issues of October 20 and 27).

The action was brought by Messrs. Willcock and Co., builders, of Wolverhampton, to recover from the defendants, the executors under the will of the late Lord Burton, the sum of £3,795, balance of the cost of building St. Chad's Church at Horninglow, Burton-on-Trent, for the late Lord Burton. The contract price for the building of the church was £19,559, and the plaintiffs claimed in addition payment for certain extra work said to be outside the contract.

The case had been adjourned upon an application to amend the pleadings by the defendants in regard to an allegation that work said to have been done as extras had not really been done, except so far as it came within the contract. The Referee, in agreeing to the adjournment, imposed certain conditions as to costs to which defendants' counsel were unable to agree without consulting the executors.

On the reassembling of the Court, after several days' interval, a long consultation took place between the leading counsel, which resulted in the parties arriving at a settlement, the terms of which were communicated to the Referee in his private room, but no announcement in relation to them was made in Court.

LONDON ASSOCIATION OF MASTER DECORATORS.

The annual business meeting of this association was held on October 11 at the Holborn Restaurant, Mr. C. E. Wilkinson in the chair. In the annual report it was stated that, since the settlement of the dispute with the men's union, no serious differences of opinion had arisen, and only one reference to the Conciliation Board was found necessary, the point in dispute then being whether, by offering 1/4d. an hour to a workman who had been receiving 1/6d. the employer had committed such a breach of the working rules as would justify the union in withdrawing their workmen. The matter was ultimately referred to the arbitration of Mr. F. A. Greer, K.C., who, acting for the Board of Trade, decided that the employer had not committed a breach of the working rules, and that the society were not justified in withdrawing their workmen.

The schedule of prices which was in course of completion at the date of the last report has now been in the hands of the trade for some months, and from the reports received the great trouble which the sub-committee took in producing the schedule has been amply justified and rewarded by the reception which it has met with.

With respect to technical education, the report recalls that the Council had promised to contribute an annual amount towards a prize fund for the benefit of students attending the London County Council School of Building, Brixton. In accordance with this promise, four prizes had been presented to successful students; and the Council particularly wish members of the Association to note that between January and Easter next ten boys will have completed their curriculum in the London County Council Decorators' School, and will be available for employment, according to the demand, and it is to be hoped that members will avail themselves of this opportunity of securing properly trained boys.

The Association having reached the seventh anniversary of its formation, it has been felt that it could lay claim to being an established institution of the trade in London, and that some tangible form of certificate of membership should be issued to its members. Through the courtesy of certain members, a selection of designs of most excellent workmanship was submitted for consideration, and with the assistance of Mr. Arthur Willcock the design prepared and submitted by Mr. Stewart Greene was selected, with modifications, as being the most suitable. The certificates are now being prepared and will be issued to the members in due course.

Mr. Mawer Cowtan Cowtan was unanimously elected president for the ensuing year, a hearty vote of thanks being accorded to the retiring president, Mr. C. E. Wilkinson.

R.I.B.A. PROBLEMS IN DESIGN.

The galleries of the R.I.B.A. not being available for exhibitions in consequence of their being devoted to the work of the civic survey of Greater London, the Council of the Architectural Association has kindly offered accommodation for the bi-monthly exhibitions of the problems in design. The exhibitions will be held on the following dates at 18, Tufton Street, Westminster: November 8 to 13, 1915; January 10 to 15, 1916; March 6 to 11, 1916; May 8 to 13, 1916; July 10 to 15, 1916.

PROJECTED NEW WORK.

Motor-works Extensions, Dumfries.

A large extension is to be carried out by Messrs. Arrol-Johnston, Ltd.'s, Motor Works in Dumfries.

Chapel School, Camelon.

A new Roman Catholic chapel school to be erected in Camelon on a site which has been granted free for the purpose.

Picture-house, Aberdeen.

A new picture-house will be erected in Wales Street, Aberdeen, for Mr. J. Kilgour, by Messrs. Sutherland and George, architects, Aberdeen.

Picture-house, Dumbarton.

A new picture-house is to be erected at the corner of Caledonia Street, Dumbarton, Dalmuir, with seating accommodation for about 1,000. Mr. Inglis Glasgow, is the architect.

Premises for Co-operative Society, Whitburn.

The West Benhar Co-operative Society is to erect premises in Whitburn at the cost of about £2,000. Mr. Thomas Robertson, Bathgate, is the architect.

Tenements, Dalmuir.

Eighteen tenements are to be erected in Dalmuir, at an estimated cost of £30,000, by the Dalmuir West of Scotland Estate Co., Ltd. Most of the houses are to be of three rooms and bathroom. There are at the present moment 230 houses in course of erection in the burgh of Dalmuir, a number of which are being erected by Messrs. William Beardmore and Co. for their own workmen.

Remodelling of Dundee Post Office.

From among a large number of offers from all parts of Scotland, Mr. B. J. Reynolds, builder, Stirling, has been successful in securing the Government contract for the remodelling and extension of Dundee Post Office. The cost is £20,000 and operations will begin immediately. Whilst Mr. Reynolds is the only contractor so far approved by the Government, he will employ sub-contractors for the joinery and ironwork, etc.

Building in Renfrewshire.

The Buildings Committee of Renfrewshire at their last meeting approved of plans of the following buildings: Conversion of Arden Hillington Park Circus, Cardonald, into dwelling-houses, for the Rev. John Ridd, Cardonald; addition to motor garage, Maryville Avenue, Giffnock, for William Anderson, Newton Mearns; garage and outhouses at The Hirst, Auchinloch Road, Johnstone, for William Stewart, Johnstone; addition to works in Hailes Street, Yoker, for Halley's Industrial Motors, Ltd., Yoker; and double garage in Busby Road, Clarkston, for Andrew Mickel and Co., 4, Bath Street, Glasgow.

Plans Approved, Hornsey.

The following plans have been approved by the Plans Committee of Hornsey Town Council: Two lock-up shops adjoining "Victoria House," Muswell Hill Road, Hornsey; and amended plan for reconstruction of laundry at the rear of No. 28, Eastern Road, Fortis Green, for Mr. T. E. Fairbrother; and block of six terrace houses on the north side of Field Avenue, Hornsey, by Francis Chambers and Son, Cannon Street, E.C.

3.A.: PRESIDENTIAL ADDRESS MR. ERNEST NEWTON, A.R.A.

At the opening general meeting on Monday last, November 1, Mr. Ernest Newton, A.R.A., delivered his presidential address, which we hope to be able to reproduce in extenso next week. He gave an outline of what is being done by the various architectural war committees, and made suggestions of ways in which unemployment could be found for those who are in great need of it. Most important among the schemes adopted is the Survey, which the Government have sanctioned for three districts—Greater London, South Lancashire, and South Shire—and have made a preliminary estimate of £1,000 for the work. Throughout the R.I.B.A. has kept in touch with the Professional Classes War Relief Committee, which has in various ways afforded a valuable help to architects' families. The Selection Committee is now engaged in preparing a voluntary register of architects suitable for military, civil, or municipal work. Mr. Newton called personally on the War Office in May last to explain the details of the Institute's offer of national service, and the suggestions he then made were most courteously received and have since been communicated to all the committees in the British Isles. The Professional Employment Committee has found much work for a great many men, and those for whom suitable employment cannot be found the Architects' Benefit Society and the Artists' General Provident Institution have given direct assistance. With regard to the hardship inflicted on professional men by calculating income-tax on a three years' basis, the Institute has approached the Inland Revenue Office and the Chancellor of the Exchequer, and some measure of relief may be anticipated. Finally, Mr. Newton spoke at some length on the necessity of courage, patience, and personal sacrifice incumbent on us all at the present time. On the result of the war, he concluded, "everything depends, and everyone must contribute something towards this, not by morbid brooding, not by any forebodings, but by realising its enormous seriousness, understanding the sacrifices which must be made by us, and by believing that victory is certain as a nation bend our whole energies to the task, and shrink from nothing which will give us the victory without which life is not worth living."

SOCIETY OF ARCHITECTS' ELECTION RESULTS.

The results of the elections for officers of the Council for the Society of Architects for 1915-16 are announced as follows: President, Mr. E. C. P. Monson, F.R.I.B.A.; vice-presidents, Mr. E. J. Love, F.R.I.B.A., and Mr. A. Alban Cott, M.R.San.Inst.; past-presidents, Mr. A. E. Pridmore, F.S.I., and Mr. B. Tubbs, F.R.I.B.A.; hon. sec., Mr. E. J. Partridge, F.S.I.; hon. treasurer, Mr. J. Herbert Pearson; hon. librarian, Mr. Gilbert H. Harrison. Members of Council: Mr. Henry Adams, F.S.I.; Col. F. S. Leslie, R.E.; Mr. H. O. Ellis, Mr. Noel D. Sheffield, Mr. T. Stewart Inglis, Mr. Alfred J. R. (Bath), Mr. P. M. Beaumont, F.S.I., Mr. F. C. Moscrop, Mr. George Baines, F.R.I.B.A.; Mr. D. Cancellor (Winchester), Mr.

George H. Paine, Mr. J. A. Bowden, Mr. C. E. Salmon (Reigate), Mr. Edward Cratney (Newcastle-upon-Tyne), Mr. B. R. Tucker, M.R.San.Inst.; Mr. Thomas Wallis, Mr. G. E. Dickens-Lewis (Aberystwith), and Mr. G. B. Imrie.

It has been decided to suspend the evening meetings of the Society. Business meetings are to be held, however, at 6 p.m., immediately following the monthly Council meetings, and the holding of afternoon meetings is "a matter for further consideration."

OBITUARY.

Mr. Robert Wylie.

A wide circle of friends in the Masonic and architectural world will learn with regret of the death of Mr. Robert Wylie, a Liverpool architect and surveyor, who until quite recent years was the Deputy Provincial Grand Master of Freemasons in South-West Lancashire. Mr. Wylie's death was not altogether unexpected, he having retired from his high position in consequence of ill-health. He had lived to the venerable age of eighty-one. Mr. Wylie had long been prominently identified with the Masonic charities.

Mr. G. B. Bulmer, F.R.I.B.A.

It is with regret we record the death of Mr. George Bertram Bulmer, F.R.I.B.A., which occurred at his residence in Leeds. Mr. Bulmer, who was sixty-four years old, was a partner in the firm of Perkin and Bulmer, and during his connection with it many important buildings were erected to the firm's plans, including the Yorkshire Penny Bank, the City Chambers, and several churches. Mr. Bulmer was a past president of the Leeds and Yorkshire Architects' Association, and was highly esteemed by reason of his integrity and charm of manner. He had recently been in indifferent health.

Mr. R. C. Sutton.

The death has occurred at Carisbrook House, Southey Street, Nottingham, of Mr. Richard Charles Sutton, founder of the firm of architects and surveyors which bears his name. Mr. Sutton, who had reached the advanced age of eighty-one years, came of an old and well-known Nottingham family—a family closely identified with two phases of city life—its literary circles and building developments. His father was Mr. R. Sutton, proprietor of the "Nottingham Review," which he managed for upwards of 40 years. Born in Nottingham, Mr. R. C. Sutton was educated at Ockbrook School, and went to London for his professional training under the late Mr. S. S. Poulton. For many years Mr. Sutton was one of the leading architects in Nottingham. Many of the churches, schools, and other public buildings in the district were built to his designs. For years, too, he was a member of the City Council—then the Town Council—entering it in 1887 and retiring in 1901. Mr. Sutton was a prominent Freemason.

Fatal Accident to a Contractor.

Mr. Gilbert Raynor, a well-known Halifax builder and contractor, was engaged on the extension of business premises in Halifax on October 27 when some falling scaffolding struck him on the head. He was badly hurt and died an hour later at the Royal Halifax Infirmary.

NEW POLICE STATION, FENTON, STAFFORDSHIRE.

A new police station which has been erected in Baker Street, Fenton, Staffordshire, at a cost of nearly £2,900, was formally opened by the Deputy-Mayor last week.

The new station has been built from the designs and under the supervision of the borough surveyor, on an admirable site between the Town Hall and the Public Library. The design generally is of a simple character in the Georgian style, indicative of its purpose without being unduly pretentious or ornate. The building is set back from the roadway, and the front boundary wall is surmounted by an ornamental iron railing with gates. The main entrance is in the centre of the building and leads to a hall 6 ft. 6 in. wide, to the right of which is the charge-room, and, immediately adjoining, the inspector's office. There is a side entrance on the right side of the building, which also leads to the charge-room and inspector's office. This side entrance will be used for conveying prisoners to the court in the adjoining Town Hall, and also to the police van, and is effectively screened from public view by high gates and walls. The door at the rear of the charge room leads directly to the cell corridor, off which are four cells. The cells are fitted with the necessary benches, automatic sanitary fittings, and electric bell pushes communicating with the charge-room. Behind the entrance hall is the yard.

There is a large recreation-room over the cells on the first floor, the entrance being from the yard by a separate staircase. A special grate has been fixed for warming the meals of the staff. A low-pressure system of heating, for the cells, has been provided, and a hot-water system which supplies the whole premises has been installed in the basement. The inspector's house is on the left side of the main entrance and consists—on the ground floor—of entrance hall, parlour, living-room, scullery, and larder, with the necessary out offices. On the first floor are four bedrooms and a bathroom. The buildings throughout are fire-proof and are wired for electric light. The ventilation is of the natural type.

The chief contractors for the work have been Messrs. C. Cornes and Son, Hanley, and the sub-contractors for special work as follows: Heating and hot water systems, Messrs. S. Peake and Son, Stoke; electric lighting and bells, Messrs. Blackburn and Starling, Hanley; cell doors and fittings, James Gibbons, Wolverhampton; floor and wall tiling, the Campbell Tile Company, Stoke; and sanitary fittings, F. Winkle and Co., Ltd., Stoke.

Opening of the A.A. Session.

The opening meeting of the session of the Architectural Association will be held on Monday next, November 8, at 6 p.m., when Dr. A. E. Shipley, F.R.S., Master of Christ's College, Cambridge, will read a paper on "The Military Hospital at Cambridge," illustrated by lantern views.

Housing at Rosyth.

Plans have been passed for the erection of 292 houses at Rosyth by the Dunfermline Dean of Guild Court on the petition of the Scottish National Housing Company. These houses will form the nucleus of the town of Rosyth, and the Admiralty have set aside sites for them. They will be occupied by the Admiralty employees.

PUBLISHER'S ANNOUNCEMENT.

THE question of the cost of Advertising is governed entirely by the circulation of a publication. The prices for small Advertisements enumerated below are framed upon the lowest possible basis in order to allow the use of the columns of the Journal for "Wants," &c., at a figure well within the reach of everyone.

Advertisers are purchasing the circulation of a paper in buying space for their announcements, and we are able to announce that "The Weekly Nett Sale of The Architects' and Builders' Journal is larger than that of any other Architectural Journal."

Appointments Wanted.

4 lines (about 28 words) 1s. 6d.; 3 insertions, 3s.

ARCHITECT and Surveyor's Assistant, unfit, 23, seeks engagement; Student R.I.B.A.; ten years' experience; all-round man; can supervise; highest references; salary £2 5s.—V. S. Barnes, Governor's House, H.M. Prison, Preston. 673

BUILDER'S General Foreman seeks engagement; age 35 years; carpenter by trade; good draughtsman and manager of men; just finished large business premises; used to new or alterations, large or small; good references; town or country; wages moderate.—Foreman, 1, Batoum Gardens, Shepherd's Bush, W.

BUILDER'S General seeks re-engagement; town or country; now completing large War Office works; new or alteration; trade, carpenter and joiner.—F. F., 43, Gaywood Road, Lloyds Park, Walthamstow. 682

BUILDING contractor's Manager, or confidential, wants berth; draughtsman, quantities, and competent estimator; entire control or otherwise; buyer and organiser; 25 years' experience; abstainer.—Box 681

FIBROUS and Solid Plastering.—Manager of one of the largest firms in England desires change; thoroughly capable of managing and controlling large staff and showing good results; good London, Provincial, and Continental connection and experience; also experienced in reinforced concrete work.—Box 657.

FOREMAN or Overseer seeks berth; thoroughly competent; above military age; life experience in all branches of the building trades; good manager of men; free at once.—Box 692.

GENERAL or Working Foreman seeks re-engagement; well up in alteration and new works; bricklayer by trade; will take ground-work and brickwork is preferred; eighteen years' good experience of all trades; excellent reference; age 47.—F. A., 95, Priory Park Road, Kilburn, N.W. 684

GENERAL Foreman or Estate Manager; certificated; draughtsman; taking off; measuring trades; keen buyer; late garden city master builder; good manager of men; joiner; abstainer (36).—193, Grange Road, Ilford. 680

PLUMBING work wanted; good references; new or alterations.—Higginson, 35, Kimberley Road, Beckenham. 688

QUANTITY Surveyor (experienced) is open to render temporary assistance in taking off, measuring up, squaring up accounts, etc.; moderate terms.—Advertiser, 19, Gunton Road, Upper Clapton, N.E. 690

THE Association of Builders' Foremen and Clerks of Works, 56, Old Bailey, E.C.—Experienced Foremen and Clerks of Works can be obtained by applying to the Secretary, Mr. J. W. Sawyer 214, Clapham Road, S.W. Competent foremen and clerks of works are invited to join this Association.

Appointments Vacant.

6d. per line.

BUILDER'S Clerk (not eligible for Army); used to accounts, time-sheets, jobbing, and general office routine; one living N.W. or W. preferred.—Apply by letter, stating qualifications and references, B. S., 69, Exeter Road, Cricklewood, N.W.

JUNIOR Draughtsman (unfitted for military service) required by firm of reinforced concrete engineers, Westminster; state age and experience and salary required.—Box 691.

WANTED at once for Surveyor's office, well educated boy; must write good hand.—Reply, by letter, to H. R., 23, Victoria Street, S.W. 693

Contract Open.

9d. per line.

BOROUGH OF CHELMSFORD.

TO BUILDERS AND CONTRACTORS.

ADMIRAL'S PARK WATERWORKS.

The Town Council invite Tenders for the Erection of a Temporary Engine House and Incidental Works at their Admiral's Park Waterworks.

The plans and specification may be inspected, and forms of tender, particulars, and conditions obtained, on application to Mr. Percival T. Harrison, A.M.I.C.E., Borough Engineer, Municipal Offices, Chelmsford, on and after October 16.

Tenders (which must be on the form provided), enclosed in sealed envelopes, endorsed "Temporary Engine House," must be delivered at my Office by not later than 5 o'clock on Monday, November 15, 1915.

The contract will contain a clause providing that the contractor shall, so far as regards any work executed in the Borough, pay rates of wages not less favourable than those commonly recognised by employers in the Borough for the particular class of work to be performed under the contract.

The Council do not bind themselves to accept the lowest or any tender.

GEORGE MELVIN,

Town Clerk.

Municipal Offices, Chelmsford.
October 15, 1915.

Miscellaneous.

6d. per line.

TYPEWRITING: architects' and builders' specifications, etc.; testimonials and soldiers' letters copied; prompt, cheap, and accurate; send for price list.—Address, "Typist," Typewriting Office, 65, Marsham Street, Westminster. 683

HAND-SPLIT Laths, Best English, from Baltic wood; good stocks; enquiries invited by actual makers, J. Duckett and Son, Ltd., Sanitary Ware Works, Burnley (Lancashire); also for foreign hand-split, sawn laths, and slating battens. 679

SECOND-HAND Optical Mart

For the Purchase and Sale of
LEVELS, THEODOLITES, DRAWING INSTRS.
—Clarkson's, 338, High Holborn, London, W.C. (Opposite Gray's Inn Road).

TO ARCHITECTS COMPETING. SCHEMES & ESTIMATES FOR ENGINEERING WORK

(Lighting, Heating, Ventilation, and Sanitation), and Architectural Metal Work, supplied free of charge of **STRODE & Co., Ltd., 48, Osnaburgh Street, London, N.W., and 18, Easy Row, Birmingham.**

BOOKS.—Books on Building Trades, Engineering, Educational, Literary, Technical, and all other subjects; second-hand at half prices; new at 25 per cent. discount; catalogue free; state wants; books sent on approval; books bought; best prices given.—W. and G. Foyle, 121-123, Charing Cross Road, London, W.C.

CLASS—4 in. thick rolled, 8 ft. long by 15 in. to 16 in. wide; also bars and purlins, at present being pulled down from large shed in London. Half current prices. Also other second-hand Timber. We stock Military Hut windows and doors and glass.—**JENNINGS & CO., Timber Merchants, General Woodworkers, 981, Pennywell Road, Bristol.**

POLING boards, selected length and thicknesses, best quality and full measure, also scaffold boards, putlogs, scantlings, deals, battens and boards; lowest wharf prices.—C. H. Glover and Co., Ltd., Importers, Hatcham Saw Mills, Old Kent Road, S.E.

TO Builders and Contractors.—For sale, scaffold poles, boards, putlogs, and cords; deals 4 in. by 2 in., and 1 in. by 6 in. boards.—C. Holt, Great Western Railway Co.'s Dock, Brentford. 689

WANTED "Architectural Review," March, 1911.—Box 694.

Educational Announcements.

6d. per line.

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The 6 and 18 months' S.I. Courses commence in September. Past successes include: Penfold Silver Medal, Building Prize, D.P. Prize, and the Irish Special Prize.

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Representing an unique site for the erection of a block of high-class residential flats, a cinema theatre, public hall, garage, or other commercial undertaking, which

MESSRS. FLOOD AND SONS, will OFFER AUCTION, first in One Lot, at the MART, on THURSDAY, NOVEMBER 25, 1915, at TWO o'clock.

Particulars, plans, and conditions of Sale at the Solicitor, J. M. STORER, Esq., 252, Holborn, W.C.; and of the AUCTIONEER, Westbourne Grove, W.

THE ARCHITECTS' & BUILDERS' JOURNAL.

Wednesday, November 10, 1915.

Volume XLII. No. 1088.

No. 160.



AN IMAGINARY PRISON.

(From Piranesi.)

THE ARCHITECTS' & BUILDERS' JOURNAL.

NOVEMBER 10, 1915.

TOTHILL STREET, WESTMINSTER.

VOLUME 42. No. 1088.

EDITORIAL.

NO presidential address to the R.I.B.A. can have been less architectural in the æsthetic sense than that which Mr. Ernest Newton has just delivered. Certainly there have been occasions when "burning questions" of professional polity have thrust mere art into the background, but it would be difficult to recall any instance in which polemics, politics, and æsthetics were so thoroughly ignored; for Mr. Newton's references to the relations between the Institute and the Government with respect to offers of service and to the incidence of the income-tax can hardly be classed as political, and his observations on military service were even more innocent of this taint. His address, indeed, resolved itself, in the main, into a recruiting speech, which would have been more effectual if it had been more persuasive and less hortatory. Of course, we all long to tell the slackers what we think of them, but this is hardly the best way to set about converting them. Besides, it is very doubtful whether any fit men remain within the pale, seeing that more than eighteen hundred architects are known to have joined the forces, and so great and contagious has been the enthusiasm for service that the sorry remnant who have withstood it are not worth the President's powder and shot. Yet he has by no means wasted his eloquence; for we cannot recall any Institute speech that has been so widely quoted in the lay Press; and this unusual amount of publicity is entirely due to the war interest of an address that, appropriately and inevitably dealt almost exclusively with the one great topic from which there is no escape.

In Mr. Ernest Newton's presidential address a point that needs special emphasis is that relating to income-tax. It is a matter that should be taken up with more vigour than has yet been shown. It is well enough as a preliminary step to send letters to the Inland Revenue Office and the Chancellor of the Exchequer urging the impossibility of architects and civil engineers paying on a three years' basis where, owing to the war, their incomes have been reduced to next to nothing, or, in many cases, absolutely to nothing; but the hardship is so oppressive as to demand much more energetic action. Representations should be stronger than mere "scraps of paper," otherwise the authorities—who, we fully recognise, are themselves beset by many harassing distractions—may fail to realise the seriousness of the position. Calculation on the three years' basis may pass muster as a fairly equitable system in normal times, but in present circumstances it loses its virtue. Conceive the case of the professional man who for one year of the three earned a respectable income, and who in the second year was still fairly prosperous, but who in the third year makes nothing

at all. There must be innumerable instances which holding him to the three years' system, normally a convenient method—would in present circumstances impose upon him a severe hardship.

To be without income and without resource, yet to be required to pay income-tax, is surely experience one of the cruellest of life's little ironies, and, unfortunately, such cases are common enough to warrant the most earnest endeavours to secure a full measure of relief. Granted that the thousand a year man (let us say) ought to have been more provident, it is to be feared that the large majority of professional men, falling a good deal below that average, have had but little margin for saving, and are now in dire extremities through no fault of their own. To press them to pay income-tax on the three years' basis is to turn that sometime bland expedient system into an instrument of torture. They are asking, is true, release from a bargain to which, made for their own convenience, they voluntarily agreed; but they did so without the slightest anticipation that, as a result of international complications in pursuit of national economy, income would suddenly and entirely cease, and we feel confident that if their case is put forward with sufficient cogency they will obtain a just measure of relief.

Very promptly it has been decided to erect, on an island site between the National Portrait Gallery and St. Martin's Church, a statue to Miss Cavell. George Frampton, R.A., will make the statue "in honour of labour of love," the Westminster City Council have given the site, and the cost of materials and erection will be met by the "Daily Telegraph" fund, which already amounts to £1,800. When this statue is up, there will still be no more than half a dozen women thus commemorated out of doors in London. Counting in Queen Boadicea (or Boudicca, as the pedantic inscription has it), Miss Cavell will be the sixth; the others representing Queen Elizabeth, Queen Anne, Queen Victoria, and Miss Florence Nightingale. Another memorial to Miss Cavell honours her birthplace in Norfolk, and a sum of about three thousand guineas has been subscribed towards maintaining somewhere a home for nurses; but this sum does not suggest the erection of a special building that could be regarded as an adequate national memorial. It is announced, also, that a memorial to Miss Cavell has been commissioned in Paris, where also a street is to be named after her.

Some heartless scribe—we would rather not name his lair—has outdone the person who spoke respectfully of the equator. He has flouted St. P.

edral. He cannot understand, he says in effect, why people are always making "such a fuss" about the safety of St. Paul's. London, he thinks, has buildings that are much more worthy of our solicitude—Westminster Abbey and St. Bartholomew's, for example, to wit. Could any comparison be more apt, or more cold-blooded? It is as if a father were expected to formulate a preference as to which of his sons he would prefer to return safe and sound to the front when the war is over, or, rather, which would prefer to fall. His reasons, such as they are—and the subject is one that would paralyse the wisdom of Solomon—take specially into account the venerable age of the Abbey and St. Bartholomew's. St. Paul's, he says, has neither history nor glory behind it, and apparently he would shed no tears if it were suddenly deprived of all chance of surviving for these distinctions. As a building he does not admire it, partly because it is not historic, and partly because it is not as Wren originally designed it. Clearly this writer was not within sound of Bowchurch bells; for in the midst of every true cockney there burns an ardent and probably uncritical love for St. Paul's, which stands for him as the heart and soul of London and the visible embodiment of its spirit. There is no building which, if the agony of such a choice were imposed upon him, he would not more willingly sacrifice. He may venerate the Abbey, and he may be mildly interested in St. Bartholomew's as the oldest relic of antiquity in London. But St. Paul's he loves, because for him it summarises and embodies London. Hence his anxiety that every possible precaution for its safety should be taken.

* * * * *

Of course, the average Londoner seldom or never ventures inside St. Paul's. When he has his most inclination to do so—in times of sorrow, rejoicing, or other emotional disturbance—he usually finds himself crowded out, and must even content himself with the show meeting which is sometimes compassionately vouchsafed to him. One such occasion was called by the untimely death last week of Mr. John Waller, who, at the beginning of the war, stood from the top of the steps at the west front of the fine "Ballad of the Clamphersdown," to the delight of the vast crowd who could not get into the cathedral. Inside, at ordinary times, the visitors are in little groups round the Gordon monument, in front of Watts's "Time, Death, Judgment," or Holman Hunt's "Light of the World," and they look at them with an expression that suggests surprise and anxiety rather than admiration, at the aggressive ugliness. Sad to say, few such groups gather round the Duke of Wellington's monument to the Duke of Wellington, which is, of course, incomparably the greatest work of art that the cathedral enshrines; nor do they seem to be greatly attracted by the Grinling Gibbons ornament of the organ cases and choir stalls. Probably no cathedral outside Germany has a more lovely collection of stained glass. Much of it was made in Germany, and would not be greatly regretted if it suffered irretrievable damage from the Zeppelin window-smashing expedition, always predicted that, as in so many other instances, the windows could be blown out without more material loss to the fabric.

* * * * *

In an interview with a representative of the *Graphic*, Mr. C. Reginald Grundy, the author of the "Connoisseur," expressed certain views and fears—especially fears—for art, with respect to the war's present and prospective effects on it. In the first place, he made it perfectly clear that he has no wish "to place the interests of art

before the higher interests of the nation." Besides, "his long study of art has convinced him that German dominance would mean the crushing of the spirit of all art, and its complete subservience to a military caste." Hence, by the way, the brutality which is so marked a feature of recent German architecture. Mr. Grundy fears that during the war there will be a wholesale exportation of our art treasures to America, and that our art craftsmen who are unable to continue their work will be driven into other occupations. To mitigate this tendency, he throws out a valuable practical suggestion: "We must have war memorials. Why not, at once, address ourselves to thinking out and putting in commission the records we shall make of the heroism of our soldiers and sailors?" We may be very sure that it was not by intention that he left out the women who are also sacrificing their lives in the country's service. In the matter of memorials, Mr. Grundy's suggestion has been anticipated in the very representative series of examples presented in several issues of the "Architectural Review."

* * * * *

It is pleasant to find that the war has not been allowed to interrupt the excellent practice of preserving for posterity the "counterfeit presentment" of the presidents of the R.I.B.A. Mr. J. J. Shannon has painted the portrait of Mr. Reginald Blomfield, and it is described as of the kitcat size—a term that is fragrant of the days of Vanbrugh, Congreve, Addison, and Steele—members all of that "convivial association of Whig wits," the Kitcat Club. Defoe would have it that the name arose because the club met at the house of Christopher Catt, a pastry-cook in Shire Lane; but in No. 9 of the "Spectator" it is contended that it was of secondary or tertiary derivation, the club taking its name not from Kit Catt himself, but from a special kind of little pie he made, which was a favourite with the club. After the man the pie was named, after the pie the club, and after the club the uniform size (less than half-length) of the portraits of members that were painted by Sir Godfrey Kneller. Kitcat size is rather indefinite; it may refer to any portrait showing the figure at rather less than half-length, but the kitcat canvas is commonly 36 in. in length by 28 or 29 in. in width.

* * * * *

Official architecture is at the present moment under special observation at Manchester. Representations have been made by the Manchester Society of Architects that much of the architectural work now done by the City Architect should be done by practising architects. In bringing this matter forward, Mr. Gass, as spokesman of the Society, made it perfectly clear that the question was based purely upon principle, and had no personal bearing whatever. He paid, indeed, a handsome compliment to the City Architect, the value of whose services, he said, was fully appreciated by the Society. All that was urged was, in effect, that the architecture of municipal buildings should not be designed officially, but should be of more independent origin—that a municipality should not deny itself the advantages of selection from a wider field. It would have been wise, we think, to thresh the matter out upon this issue, but unfortunately the question of cost has been introduced, with the very probable result that merely sordid considerations will divert attention from the incomparably more important question of amenity. Our opinion upon the general subject of official architecture is well known. We think, with the Society, that, with respect to important buildings, the position of an official architect should be purely consultative and advisory.

HERE AND THERE.

SHOULD anyone ask, What are architects and their assistants doing for the War? the reply is, nearly 2,000 of them have joined the Forces. That is a fine response to the call for men. But it may be asked further, What of those who remain?—and the answer to that question is, many are beyond military age, some are physically unfit for military service, others are helping to "carry on." Yet among those who remain the desire is strong that their professional services may in some capacity be made use of by the authorities. It was this desire that prompted the Institute at the very beginning of the War to address themselves in a corporate capacity to the War Office, offering their services, but, as everyone knows, the War Office so far have not been able to utilise the services of architects to anything like the extent that architects themselves hoped. This inability on the part of the authorities is due in large measure to the lack of precise individual information, and it is with the object of meeting this deficiency that a special Selection Committee of the Architects' War Committee is now undertaking a voluntary register of architects—a sort of architectural extension of the National Register: a matter of such importance, both to the profession and to the authorities, that I shall here transcribe the substance of the form which is being circulated.

Under "General Information" it is stated:—The technical training of architects and their experience in organisation is useful in all technical branches of the Service, such as Royal Engineers, Fortress Engineers, Pioneer Battalions, Mining Battalions, Navy Battalions, Inspectors of Works, Mechanical Transport, Army Service Corps, Army Ordnance Corps, etc. Particularly useful are expert knowledge of surveying, map reading, use of the prismatic compass, sketching and knowledge of ground and earth and water works, road making and repairs, timbering, scaffolding, and rough temporary works of all descriptions. Knowledge of routine and ordinary practice, particularly domestic and school work, is only useful so far as knowledge of construction is concerned. Knowledge of all country pursuits is also useful, such as shooting, boating, riding; of forestry, dealing with rough timber and underwoods; of land drainage; of rough constructions of ironwork; and of horses, cattle and meat. For Inspectors of Works or Factories special knowledge of the process of manufacture of iron, steel, canvas, paint, textile fabrics, all kinds of food, and of methods of conversion of all raw material into the necessities of life or means of destruction by explosion or fire is also wanted. In rendering War Service under present conditions men cannot expect to receive pay of a greater amount than would provide for the bare maintenance of the families of members of the professional classes, and it is unlikely that any appointments will be made at higher rates of pay for junior commissioned ranks than from 7s. to 14s. a day, with certain additional allowances, except in very rare instances, and in them exceptional knowledge and qualifications will be necessary. The standard rates of pay for N.C.O.'s and Privates and a general idea of the duties in every branch of the Service can be obtained from any local Recruiting Office or Labour Exchange, and applicants are advised in all cases to make inquiries concerning the branch of service preferred before filling up the form.

The form requests architects to give details of their professional experience—general practice, business premises, factories and workshops, hospitals, schools, temporary buildings, bridge

work, sanitary work, municipal engineering, engineering, dilapidations, valuations, structural steelwork, reinforced concrete, road making, surveying, etc.—and to indicate what branch of Service they would wish to enter—Engineers, N. Division, Royal Naval Reserve, R.N. Air and Aircraft; Royal Engineers—Fortress (Territorial) Mining Battalions; Royal Artillery—Machine Corps; Infantry; Pioneer Battalions; Equipment Section Flying Corps; Army Service Corps—Mechanical Transport; Army Ordnance Corps—Ordnance Department; Royal Army Medical Corps—Army Pay Corps; Sanitary Companies; Military Inspectors of Works, and Surveyors (Buildings Dilapidations, Valuations): while men ineligible for military service may serve as Practical Draughtsmen, men for Hutting and Sanitary Work (Inspectors of Stores, Works, and Factories), Munition Supervisors or Workmen.

The Selection Committee are receiving the support of all the Allied Societies, and readers will find that they can obtain the fullest information from the secretaries or honorary secretaries at the following addresses:—

London: 9, Conduit Street.
Aberdeen: 375, Union Street.
Belfast: 9, Howard Street.
Birmingham: 14, Temple Street.
Cardiff: 1, St. John's Square.
Dublin: 31, South Frederick Street.
Dundee: 6, High Street.
Edinburgh: 125, George Street.
Exeter: 5, Bedford Circus.
Glasgow: 115, St. Vincent Street.
Leeds: 34, Prudential Buildings.
Leicester: 4, Grey Friars.
Liverpool: 13, Harrington Street.
Manchester: 17, St. Ann's Square.
Newcastle: 6, Higham Place.
Northampton: 50, St. Giles Street.
Nottingham: Milton Chambers, Milton Street.
Sheffield: 14, Parade Chambers.
Winchester: 45, Jewry Street.
York: 69, The Mount.

After the particulars of name, address, etc., the form asks these questions: Can you ride a horse, undertake animal management, ride a bicycle, drive a car, do motor repairs, do turning, do any other skilled handicraft, do electric work, do military signalling, use a prism compass, level, or other surveying instrument, make and plot an ordinary chain survey, speak foreign languages, manage workmen, give first aid, understand boats?—and then come questions as to whether you are or have been engaged in any War service.

Those who fill in the form undertake to accept the request of the War Committee or authority, at very short notice, any service they have indicated as acceptable. There is no distinction between home and foreign service, though "considerations of age, medical fitness, the nature of the service will preclude foreign service in a large number of cases." And nothing but whole-time service, without restriction as to location, can be considered.

The Selection Committee intend to put the selected lists before the authorities, naval, military, civil, and in this way it is anticipated that a number of appointments will be made. To architects who find themselves with very little to do, the scheme offers an especially good opportunity to find a means of livelihood and at the same time to do service for their country.

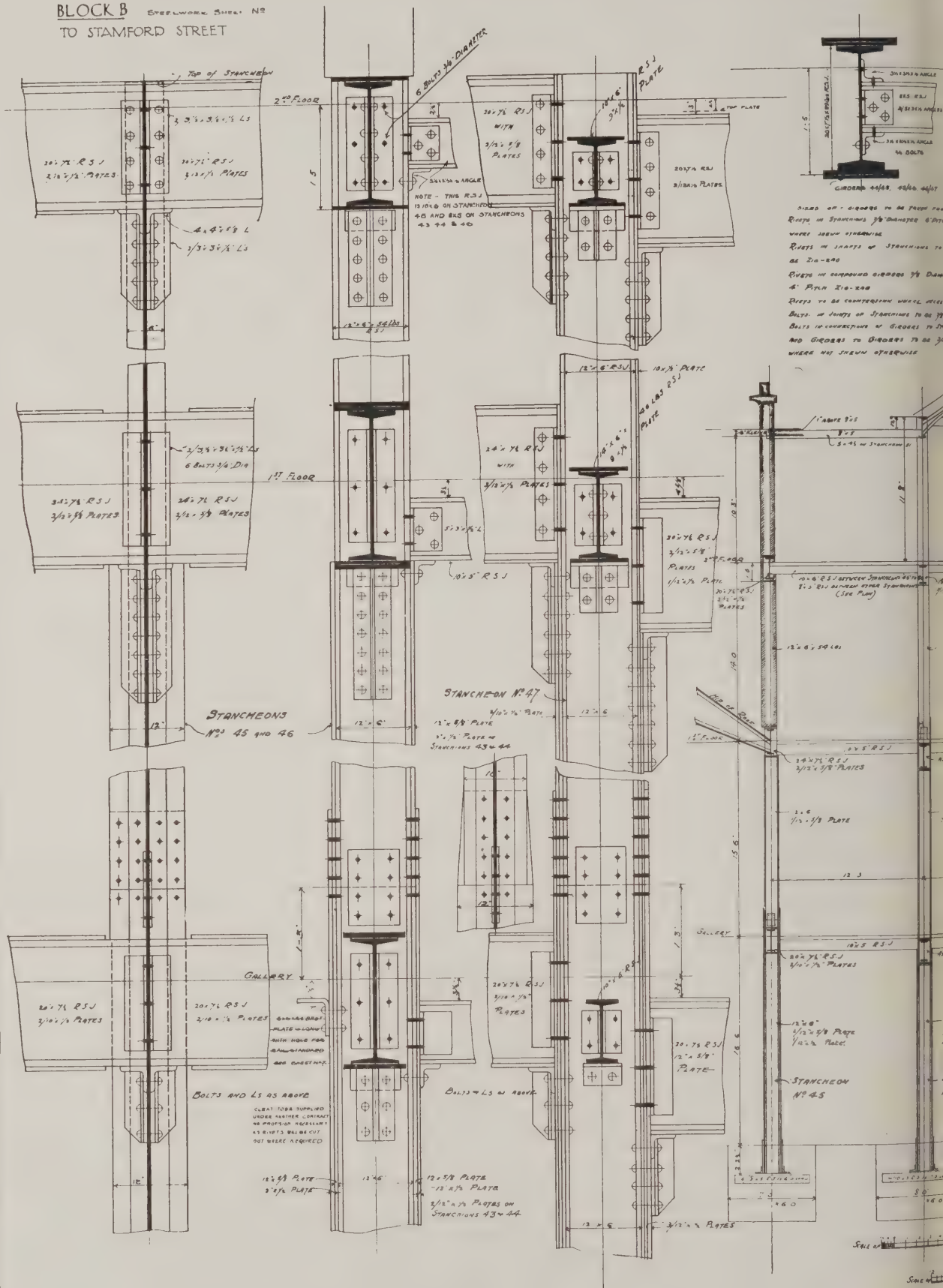


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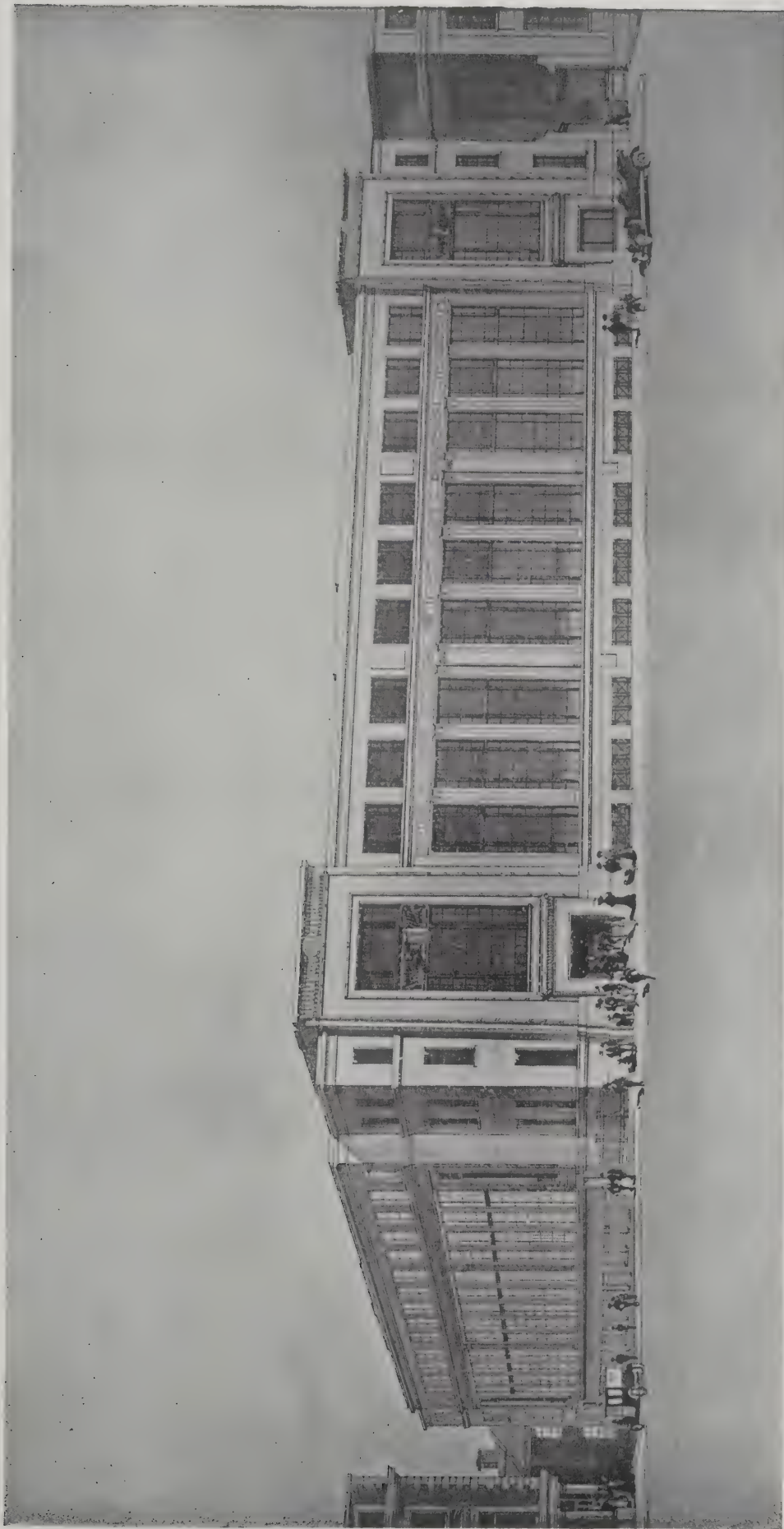
NEW FACTORY FOR MESSRS W. H. SMITH & SON STAMFORD STREET.

BLOCK B STEELWORK SHEET NO. 2 TO STAMFORD STREET



Architectural drawing of the Victoria Street Viaduct, showing cross-sections of the structure at various levels. The drawing includes labels for "FIRST FLOOR LEVEL", "2ND FLOOR", "FIRST FLOOR", and "GALLERY". It details the connection of girders, stiffeners, and plates, with specific dimensions and material specifications. Key components labeled include "STANCHIONS NO 55", "STANCHIONS NO 56", and "STANCHION NO 55". The drawing also shows "SPECIAL CONNECTIONS TO STIFFEN MAIN GIRDERS UNDER WALLS" and "GIRDERS 45/48 42/44". Dimensions are given in feet and inches, and material specifications like "1015 R.S.J.", "12x6' R.S.J.", and "12x6' S4L R.S.J." are noted. A note at the bottom right reads: "12x6' R.S.J. 3/4x1/2 PLATES ON EACH FLANGE. C. STANLEY FRANK, 7818A 39 VICTORIA STREET, WESTMINSTER LONDON".

A., ARCHITECT.



CURRENT ARCHITECTURE (SERIES III.). V.—NEW FACTORY FOR W. H. SMITH AND SON, STAMFORD STREET, LONDON, S.E.
C. STANLEY PEACH, F.R.I.B.A., ARCHITECT.

REPORT
OF THE
COMMISSIONER OF LANDS



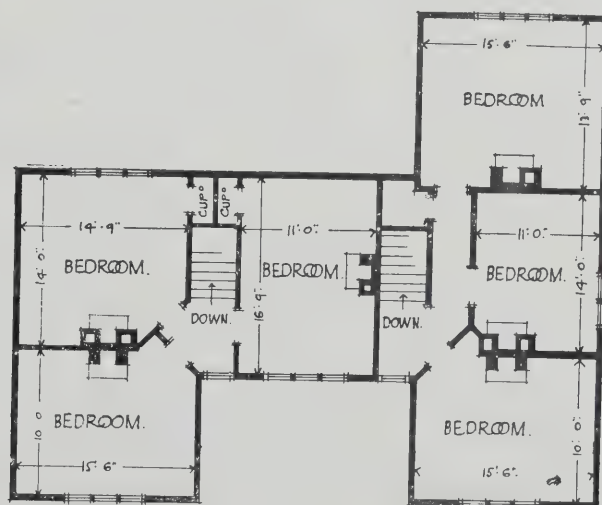
ENT ARCHITECTURE (SERIES III.). VI.—NEW FACTORY FOR W. H. SMITH AND SON, LONDON: DETAIL OF ELEVATION TO CORNWALL ROAD.

C. STANLEY PEACH, F.R.I.B.A., ARCHITECT.

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GROUND FLOOR PLAN :



FIRST FLOOR PLAN.

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UNIVERSITY OF ALBANY



DETAILS OF CRAFTSMANSHIP. XXXIX.—CARVED PINE LUNETTE (ENGLISH, EIGHTEENTH CENTURY) NOW IN THE VICTORIA AND ALBERT MUSEUM, SOUTH KENSINGTON.



LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

TECTING ITALIAN ART TREASURES.

R. WHITNEY WARREN, who has been travelling through Italy and making a study of the precautions taken by the Italian Government to ensure the preservation of works of art in the event of bombardment by hostile aircraft otherwise, has written a letter which gives much information of interest to architects the world over. Says:—

To begin with Milan and its cathedral. The protective glass has been removed, in itself a tremendous undertaking. Thus we are assured that none of it will be destroyed should the city be visited by aeroplanes, except that the temptation to destroy the cathedral is a bait so powerful to the enemy that the Government might be run in view of the magnificence of the cathedral. For, in spite of Ruskin's criticism of it, I am sure that no more beautiful and majestic work of art exists than this great vessel covered with its intricate tile of lace; nothing more vast or of proportion than the perfect has man conceived. The roof is entirely of stone, so that the danger from fire, of which Reims suffered the martyrdom, is infinitesimal.

Certain objects from the treasury have been removed; otherwise the monument remains intact. At Santa Maria delle Grazie "The Last Supper" by Leonardo has been protected by a wall of sand built at a distance of about two metres from the wall and, further, by hanging a fireproof curtain in front of it. In all the churches movable objects of art have been placed in safety, as those in the museums.

At the Castello Sforza, which I visited under the guidance of Signor Beltrami, the conservator, the pictures, glass, tapestries, furniture, etc., have been removed where fire cannot harm them, for the Castello is roofed with wooden beams. The building has been admirably restored by Signor Beltrami, who has devoted thirty years to the work of rebuilding and accumulating the treasures it contains. From Milan I ran down to the Certosa di Pavia, where the same precautions had been taken.

On my way back to Venice I stepped off at Verona and there found the same precautions taken in all the churches. The tombs of the Scaligers are buried to a certain extent in sand, while the statues are covered in straw covered with a thick coat of cement, sufficient to protect them against fragments of bombs. These precautions were made necessary by the fact that ten days before an enemy aeroplane dropped a number of projectiles on the city. Would one unhappily fall upon S. Zeno or S. Anastasia the most beautiful sixteenth century paintings extant will doubtless be destroyed, as no precaution against their destruction is possible.

From Verona, which is really in the war zone, I came to Venice, arriving at one o'clock in the morning in absolute darkness and, in spite of my fears, was conducted to an hotel by two carabinieri ordered not to leave, except under escort. . . . The morning the carabinieri took me before the higher authorities and with much formality and ceremony I was welcomed to Venice for fifteen days, an unheard-of privilege, so I was given to understand. . . . The aspect of Venice is about the same as always, with the exception of the total absence of strangers. . . . All paintings have been removed in the museums, churches, and the Ducal Palace, including even the immense "Paradise" of Veronese. Sand bags protect the exterior and interior of S. Mark's, the Loggia, the Ducal Palace, the Colleoni Statue is covered with a roof designed to shed bombs should they fall upon it. A bomb bursting upon the cupola of S. Mark's might pierce it, but in all probability it would dislodge the mosaics by the shock, causing them to fall and

obliterating one of the glories of the universe. The only way of guarding against this is to cover the entire interior with strong canvas, securely glued against the mosaics. While this is under contemplation for here and for Torcello, it is such a formidable task that the authorities hesitate to undertake it.

As regards Venice as a whole, alas, the precautions taken are infinitesimal. I tremble at the possibilities.

THE PLATES.

House at Henfield.

THIS is a house of the Late Georgian period that possesses in a marked degree the qualities of good composition and grace. The window treatment is especially pleasing, the upper windows with their shutters, and the lower windows with their delicate hoods and balconies.

New Building for W. H. Smith and Son.

Some particulars of this building, of which we publish both the architectural elevation and the constructional details of the steelwork, are given on page 211.

Cottages at Compton.

The arrangement of the plan of these cottages is very ingenious. It will be seen that one cottage is L-shaped, while the other forms a long straight block. The rooms are of a good size—a decided merit—the living rooms being 14 ft. square and 14 ft. by 11 ft., the parlours 14 ft. by 10 ft., and the bedrooms comfortably roomy. The exterior treatment follows a satisfactory country type, and the setting is most pleasing. Mr. Clough Williams-Ellis, the architect, is now with the Forces.

An Eighteenth Century Lunette.

The particular charm of this piece of craft-work is in the flowing floral ornament, which so perfectly fills the space. The carving itself is virile; in fact in design and execution alike this lunette is a fine example of eighteenth-century craftsmanship.

A Headstone.

The ornament on this headstone is coarse and ragged, but the lettering is of very good character, and it is this that gives value to the plate.

THE CLASSIC ARCHITECTURE OF RUSSIA.

THE War is bringing us closer to nations whose real life and achievements were but little known before.* This is especially true of Russia. It has been customary to think of the architecture of Russia as a somewhat barbaric expression of semi-Eastern forms, among which the onion-shaped domes of Russian churches and the forest-built houses took chief prominence. But there is quite another architecture of Russia, a refined Classic architecture, which, developed during the eighteenth and early nineteenth century—under the fervent patronage of Peter the Great and Catherine II.—gave to Petrograd, and other cities, some magnificent buildings. This architecture is now revealed, for the first time in this country, by a remarkable article, written by Mr. A. E. Richardson, F.R.I.B.A., in the "Architectural Review" for November. The article is very fully illustrated, and there is one plate, of the Bourse at Petrograd, that shows a composition of superlative quality. Architects should make a point of getting a copy of this issue, which is of quite unique interest and value.

R.I.B.A.: ADDRESS BY THE PRESIDENT, MR. ERNEST NEWTON, A.R.A.

A BRIEF summary of Mr. Ernest Newton's address at the opening general meeting of the R.I.B.A., on November 1, appeared in last week's issue. We now give the address *in extenso*:

Ladies and Gentlemen,—When I had the honour of addressing you at the opening of the session last year we were under the cloud of a great war in its early stages. Many of us may have hoped that by now this cloud would have lightened and that peace might at any rate be in sight. Unhappily, this is not the case. The cloud is darker and more menacing than ever, and we cannot but realise that peace is still far off. As the months go on, the effect of the war is being more and more severely felt by many architects, and the difficulty of organising means by which we can help those whose work has come to a standstill is a very real one. I will give you a brief outline of what is being done by the various war committees, but I should like to say that we should welcome suggestions of ways in which we could find useful employment for those who are in great need of it. In some cases, of course, it is necessary to give direct financial help, but our aim is to do this as little as possible.

Subscriptions to War Funds.

Nearly every time that I have addressed a meeting since I became president I have asked for funds to carry on the work to which we have set our hands. In the desert of unemployment there are still a few oases, and it is to the dwellers in these fertile patches that our appeal is made. Many personal requests that I have made during the past year have been generously responded to, but it is more than likely that some prosperous people have been overlooked. If this is the case I hope they will consider that this appeal is made direct to them, and that they will subscribe to our war funds as liberally as they can. I should like to be able to treble the amount subscribed so far.

The sums that have been collected or promised are as follows: Prince of Wales's Fund, £272 10s.; Architects' Relief Fund, £1,258 5s. 9d.; Professional Employment Fund, £390 5s.; Architects' War Loan Fund, £294. And in addition there is a considerable sum from the sales of the Artists' War Relief Exhibition, which was opened by Her Royal Highness Princess Louise in July and remained open during August and September. The most important of the War Committee's schemes for dealing with unemployment is the civic survey, and I cannot better explain the character and scope of this scheme than by reading to you the note published in the Institute "Journal" for August 28 last:—

Civic Survey Scheme.

"It will be remembered that at the outbreak of the war the Royal Institute of British Architects called a meeting of architects representative of the whole profession to discuss the situation, and that this meeting decided to form the Architects' War Committee. The question of unemployment caused by the war was referred to an Employment Committee, which appointed a sub-committee to suggest some scheme of employment the outcome of which should be of permanent value to the community. Their deliberations resulted in a comprehensive and far-reaching scheme for the

promotion of civic surveys in all the more densely populated districts of the country. A clear exposition of the aims and methods of a civic development survey as contemplated by the sub-committee will be found in a paper by the Director-General, Mr. H. V. Lanchester, read at the Institute last December and published in the Institute "Journal" of January 9. The scheme having been approved by the War Committee and other interested bodies, a memorial was addressed to the Professional Classes Sub-Committee of the Government Committee for the Prevention and Relief of Distress, appealing for a grant to enable a scheme of civic surveys to be set on foot, the responsibility for the work to be in the hands of a committee made up of representatives of the Royal Institute of British Architects, Architects' War Committee, Architects' Benevolent Society, Surveyors' Institution, Professional Classes' War Relief Council, National Housing and Town Planning Council, Garden Cities and Town Planning Association, Town Planning Institute, London Society, and other bodies whose services may be of value.

"The appeal met with a favourable response; the Government has sanctioned civic surveys in three districts—viz., Greater London, South Lancashire, and South Yorkshire, and has made a preliminary grant of £1,000 for the work. The disbursement of the funds is in the hands of the Architects' Benevolent Society, acting with other professional relief societies.

"The Royal Institute had already made itself responsible for the expenses of the War Committee, and is now providing accommodation for the work of the civic survey of Greater London. On July 19 actual work was started in the old Council room adjoining the Institute reading-room, and arrangements have since been made for the accommodation of workers in the spacious galleries on the ground floor of the Institute premises. At the first meeting of the new workers a short description of the aims and scope of the survey was given by the Hon. Director for Greater London, Mr. A. R. Jemmett.

Scope of the Scheme.

"The scheme of the civic survey of Greater London is devised for the purpose of collecting and recording (as far as possible in diagrammatic or graphic form) and comprehensively arranging statistics and facts of Greater London as it exists to-day, and so providing in a manner easily followed and understood all the information interesting and useful to any person concerned with the control, development, or understanding of all matters pertaining to Greater London. It is a fact that a vast amount of valuable information accumulated by experts lies buried away in blue-books and archives quite out of reach of the ordinary citizen. The results of labour quietly and conscientiously devoted to research and codification ought not to be left to crumble and decay in obscurity, particularly as human energy is awakening to the importance of future development of town and country, upon which subject these records have such an important bearing.

"The magnitude and importance of the work of the civic survey are so obvious that it has by its very usefulness attracted many architects of established reputation. Public bodies and the public generally may some day be grateful for the war

which has remotely led to the gathering together for this work of men specially trained, whom in times of peace it would have been impossible to commandeer for such labour.

"The work to be done in collecting and arranging includes correcting and bringing up to date all that has so far been done; and it is hoped to add an additional charm to the work, when completed, giving it an æsthetic quality worthy of the profession of architecture. Since the work started much information has been collected by visiting heads of departments and local councils, and by enlisting the sympathy of officials, which has already been freely bestowed, it being quite recognised that the civic survey scheme does not trench on the preserves of any existing society, or disturb any vested interests, but seeks only to deal with things they are, not as they were or will be. The fact that many of the workers are personally acquainted with officials and experts enables much information to be collected without friction and with scarcely any loss of time and energy on formalities and routine. The immense variety of the work makes it easy for the directors to discriminate between the workers, and to ensure that each man is given the kind of work which he is best inclined and fitted to do.

"The ready help and courtesy afforded by the officials of the various bodies associated in the work has stimulated the co-operation and good feeling among those engaged in it. All who take pains to understand the scheme will recognise that, apart from its value as a basis for town planning, it is a labour-saving and far-reaching utility."

Throughout the war we have kept touch with the Professional Classes' War Relief Committee, and this committee has helped architects' families by receiving their wives into the maternity home, assisting in the education of their children. It has organised summer holidays for children and has helped in many other ways. In connection with this committee we have undertaken to help in a Christmas sale at the Albert Hall, and a special committee has been formed for this purpose. We shall be glad to receive the names of ladies who are willing to make articles for this sale.

Voluntary Register of Architects.

The Selection Committee is now engaged in preparing a voluntary register of architects suitable for military, civil, and munitions work. It has been felt that the Government has not been able to make sufficient use of architects, as the information at its disposal was not sufficiently complete. It will be remembered that in the war we made, through the Architects' War Committee, a general offer of service from the whole body of architects. When the war broke out an enormous amount of work suddenly fell on the Government Departments, and more especially on the War Office. Probably on account of our general offer of service not receiving as much attention as we had hoped might have been the case, although we have been able to supply several most responsible positions, but as this offer had been made by me as Chairman of the Architects' War Committee and President of the Royal Institute of British Architects, I thought it well to call at the War Office personally in May last and renew the offer in greater detail. The suggestions I

le were most courteously received, and understand have since been circulated all the commands in the British Isles. Mr. Stanley Peach, who, with Mr. By, has been most indefatigable and devoted an enormous amount of time to his branch of our activities, finds that now the details at the disposal of the Government are not sufficient, and that the only way in which we can be of real use is to have names and qualifications known beforehand, so that the men required may be provided at once. I regret much that some controversy should have arisen out of our offer of service. Our object was, and is, to assist the Government by every means in our power, everything in the way of controversy is an advance and a waste of energy. The Professional Employment Committee, in addition to the civic survey already alluded to, has been able to find work of a very varied nature for a great many men, but there are, of course, in cases where no suitable employment can be found, and in these cases the Architects' Benevolent Society and the Institute's General Benevolent Institution give direct assistance. This committee has held its meetings on the premises of the Society of Architects, which has given the services of its staff for the purpose. We have also started a loan fund to assist men in stable positions to get over a difficult period.

Architects and Income Tax.

The Institute has not been unmindful of the probable burden of income-tax on architects whose professional income has seriously diminished and promises to do so altogether. A letter was addressed to the Inland Revenue Office in August last drawing attention to the fact that it would be impossible for many architects to pay income-tax on a three years' basis, and suggesting that it may be possible to make returns during the war on the actual basis. The Institute also joined with the Institution of Civil Engineers and others in sending a communication of a similar kind to the Chancellor of the Exchequer. A certain measure of relief has been promised on professional incomes, but it hardly meets the case of architects whose incomes are practically nonexistent. Architects are in the peculiar position of not only having to face an early diminution of work consequent on the war, but of having their means of livelihood still further reduced by the action of the Government in stopping public building, and of the Government Committee in recommending the stoppage of private building. In these circumstances, we have a peculiar claim to consideration, and a further letter has been sent to the Chancellor of the Exchequer.

We have only been able to give a very brief outline of all that is being done by the War Committee, but I hope I have said enough to indicate that if some of our ordinary activities are necessarily curtailed we have replaced them by others of immediate importance during the war. Our committees are large ones on paper—but the actual work is being performed by a few, and it is possible that on account only a few know how much is being done. Mr. MacAlister and the staff are coping heroically with all the extra labour thrown upon them. The work of the Architects' Benevolent Society has been enormously increased, and Mr. By, as secretary, cheerfully shoulders the burden every day. The Architectural Association has continued its recruit-

ing work and has sent large numbers of recruits to various branches of the services. I understand that something like 850 men have been added to the forces through its agency, and in many cases, where a special type of man was required, the commanding officers have expressed great satisfaction with the men sent to them through the Architectural Association War Service Bureau. The Association is keeping in touch with all these men, and is now asking for contributions for comforts for them. I hope everyone who can will spare something for this fund.

Altogether we have serving in His Majesty's Forces over 1,800 architects, including assistants, pupils and students, and teachers of architectural schools. Last November there were about 1,000. At that time nearly all these young men were training at home. Now most of them are abroad, many have been wounded, and some have given up their lives for their country.

The end appears to be far off, and there are very few of us who do not live in daily and hourly anxiety as to the fate of those who are very dear to us. It is a weary business waiting, but it is the lot of those who are too old to fight. Many of us, too, have the added anxiety of vanishing incomes and increased cost of living and taxation; but as the character of the younger generation is now being formed on the battlefield, the character of the older generation is also being put to the test. The situation is serious; more soldiers are wanted, and it is difficult to look with a lenient eye on the many young men who walk our streets apparently indifferent to the stern claims of duty. But while we are tempted to judge them harshly let us remember that courage of a very special kind is needed now. The great wave of enthusiasm which carried along those who so nobly went at the first call without calculation or other thought than that they were wanted has spent itself. The stern meaning of war is understood, and the reality of the tremendous sacrifice that these first gallant recruits have made is clearly grasped. The business community has settled down to war conditions, staffs have been adjusted to these conditions, and employers do not perhaps encourage their men as they did at the beginning of the war to go out and do battle for their country.

Then, too, what are the surroundings of these young men? Is there a spirit of sacrifice abroad? Do they read a stern resolve in the faces and lives of the community? Do they not on the contrary see the war exploited and vulgarised for advertisement? Are not theatres and music-halls filled to overflowing by an apparently thoughtless crowd? Is not life to all appearance just as it was? Are our young men led and inspired by noble speeches to throw aside comfortable ease and expose themselves to all the horrors of war? As far as my observation goes they are not. We have instead the exasperating and dead appeal of the pictorial poster. At recruiting meetings young men are often cajoled and flattered or insulted and threatened by turns. I am certain that the large majority of them are sound at heart and, if the right note is struck, will do their duty as those who have already gone have done theirs. We who are too old for active military service must let them know that we realise all that we are asking of them. It is easy for us to say: "Would I were a young man!" I hope we should all have gone; but none of us can realise the struggle of the man who hesitated to go at first, and is now asked for what has been

well described as "three-o'clock-in-the-morning courage." But the decision can no longer be put off. The time for choice is over. No one fit for his country's service has a right to live at ease and carry on his work protected by those who have not weighed the pros and cons, but have seen only one path and have trodden it fearlessly. Many of these men have given up promising careers and good positions, and it is unthinkable that, now the need is so great, others should hesitate to make the same sacrifice.

It is, hard, too, for some of us older men to sit still and not criticise this or that apparent act of omission or commission of the Government. Nearly everyone has somewhere in his secret recesses the conviction that he could do the work better himself, but let him remember that the slashing critic is often a very mediocre performer.

The War and its Phases.

We are passing through the accustomed phases. First, the light-hearted disdain of the enemy, the unreasoning certainty that everything is all right and that victory is ours merely by wishing for it. Then comes the second period, the period in which we are now, when there is a sort of uneasy feeling that we cannot go on in a nice comfortable optimistic everything-as-usual kind of way, that something has to be done, we don't quite know what; we are depressed without quite knowing why, and we begin to look about for scapegoats.

But when we are tempted to be impatient let us see what actually has been done in fifteen months. We have performed the miracle of raising, training, and equipping an immense army. We have entirely reorganised and immensely increased our munition factories. Germany has lost practically all her colonies, and all her ships have been driven from the seas. These many months of mutual anxiety and fierce fighting have consolidated the British Empire as nothing else could have done, have revealed to us the splendid character of our manhood, and given the lie to the croakers who declared we were a decadent race. They have, too, tightened the bonds of friendship with our Allies—particularly with our great neighbour France, a country specially dear to architects—and out of the great welter of war is emerging a clearer view of the immense issues at stake.

I think, then, that it is our part to have a fixed and serene intention to be victorious, to remember the tremendous responsibilities of our Government and to lighten those responsibilities by doing everything that we can to assist and support it, and so help to form a united public opinion resolute to do everything possible, and impossible, to bring the war to a victorious end.

I feel, ladies and gentlemen, that I owe you an apology for dwelling so much on the war and not at all on Architecture. I will confess that I had intended merely to give a short account of what we were doing for our brother architects, but my pen has run away with me. After all, what is there really of importance except this great war? On the result everything depends, and everyone can contribute something towards this result, not by morbid brooding, not by gloomy forebodings, but by realising its tremendous seriousness, understanding the sacrifices which must be made by us all, and by believing that victory is certain, if we as a nation bend our whole energies to the task, and shrink from nothing which will give us that victory without which life would not be worth living.

CONCRETE AND STEEL SECTION

(MONTHLY.)

REINFORCED CONCRETE AND THE ZEPPELINS.

In our issue for October 27 "Ubique" gave a detailed account of how a modern office building constructed of steel and concrete withstood in a remarkable way the shock from two Zeppelin bombs, one of which fell directly in front of the main entrance to the building, while the other dropped on the attic roof. We have since received two very interesting letters bearing on this matter.

The Fawcett Construction, Ltd., 47, Victoria Street, Westminster (whose "Mon'lith-crete" floors were used throughout the building in question), write:

"The construction referred to is not reinforced concrete in the ordinary meaning of the words, i.e., large slabs of concrete reinforced by iron or steel rods or bars placed near the underside of the slabs; it is only reinforced concrete in the sense that it can be said the flat, twisted bars reinforce the concrete between beam and beam, a matter of two to three feet in buildings of the factory and warehouse class, three to four feet in offices and public buildings, and not more than five feet in buildings of the lightest class, such as artisans' dwellings; for anything over these spans a 'Mono' beam is used of a section to suit the spans and loads. This beam is a rolled steel joist, from the web of which rhomboidal-shaped openings have been cut to the right and left of the centre, with the object of leaving the remainder of the web—or what might be described as the tension web members of a lattice girder—entirely in tension. The effect of this arrangement is that the concrete passes through the web openings in bulk, and, aided by the twisted bars, ties the whole floor into a monolithic mass—hence 'Mon'lith-crete'; the concrete does the work of compression web members, and the 'Mono' beam becomes a lattice girder.

"The effect of a local load in such a construction is that it is taken up by the whole floor instead of on one or two rolled steel joists, and there is no observable deflection, and the same applies to blows, i.e., if one beam is struck the shock is instantly communicated to all the others and is resisted by all instead of by one; consequently the resistance is multiplied 10, 20, 30, or even 40-fold, according to the size of the floor. If the blow is between the beams it is taken up in the first instance by the concrete and twisted bars, which go through every opening in the web (excepting in very light work), and are consequently only 8 in. to 10 in. apart; they are always $\frac{3}{4}$ in. wide and from $\frac{1}{16}$ in. to $\frac{1}{4}$ in. in thickness, according to the strength required. There is a twist every 4 in., so it can be readily understood the bite or hold on the concrete is enormous, and bearing in mind the shortness of span the resistance is very great.

"The building referred to by 'Ubique,' being an office building, was not designed to have extraordinarily strong floors; warehouse or factory floors would be twice, three times, or even four times as strong.

"The resistance of such a construction can be imagined. A heavy blow will make

it quiver, but in a few seconds this dies away and the floor resumes its normal condition. Heavy weights have been thrown down from a great height on test floors, but no hole has been broken through in this way. Enclosures sent herewith show (1) an opening made in a test slab of only 5 in. thickness, in the presence of the London District Surveyors, by repeated blows with the heaviest sledge hammer, and (2) a test load of 12 cwt. per foot super which did not cause any appreciable permanent deflection."

From Messrs. Stuart's Granolithic Company, Limited, 45, Bedford Row, London, W.C., we have received the following letter:

"We read with interest the observations relative to the behaviour of reinforced concrete as a resistance to Zeppelins. Your contributor, of course, does not attach any locale which would identify the building in question, but for our part we can speak of a certain bank in the City, built many years ago, the upper floors of which are occupied as a private hotel. The floor over the bank is in reinforced concrete construction, and according to the architect what happened was this: There were some thirty or forty persons in the hotel portion of the building, and on the night in question the last of them had just got under the first floor in the bank premises when the whole of the upper part of the building well-nigh collapsed, the fitch beam, very heavily constructed, and the debris falling on to the reinforced concrete floor. The fitch beam was broken, but the reinforced concrete floor was not harmed in any way, although it has had to carry fifty or sixty tons of debris. The business of the bank is going on as usual.

"The architect has gone out of his way to furnish us with these details, as he considers it a very striking instance of the strength of reinforced concrete—and, we may add, without boasting, of a reinforced concrete of the type or character usually associated with our name."

These facts prove indeed the wonderful strength of reinforced concrete when subjected to shock.

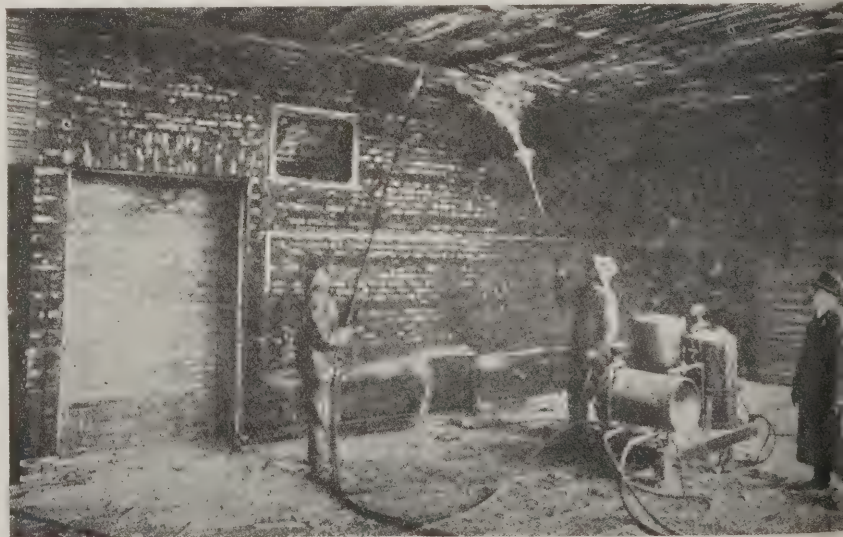
A NEW METHOD FOR PLASTER ON CONCRETE.

The accompanying illustration shows modern appliance for giving a surface to concrete that will enable plaster to be applied satisfactorily. It consists in applying a film of waterproofing compound to the concrete surface, and then blowing a layer of coarse sand.

The apparatus consists of an air pump mounted horizontally, a tank under pressure containing the mastic, and a tank containing the carefully screened washed coarse sand, on which 6-lb. pressure is carried. The mastic is forced through a hose to a special nozzle, and it is projected into an air blast, carried that point independently, which is 50-lb. pressure. This blast carries the mastic through an outer nozzle and projects it with great force against the surface to be coated. All holes are filled, and said even the larger ones, such as pipes, are permanently filled over. The work is followed very closely by the sand. The result is a rough surface which bonds effectively with the plaster, and is said to quite prevent its flaking and falling from ceilings. The process, it is claimed, has also been used with success in both old and new concrete work.

The mastic used is an asphalt-gum compound carried in a volatile hydrocarbon medium. This latter entirely evaporates in four days, leaving a surface which can be plastered at any time thereafter. Hardening begins as soon as the mastic is applied, so that it must be sanded in a short time. As the mastic is water-proof, the plaster is protected from all strains to efflorescence from the concrete, and water finding its way through the concrete.

Tests indicate that the tensile strength of the mastic is 240 lb. per sq. in., and it grips the sand grains with a strength of 160 lb. per sq. in. Its bond with the concrete to which it is applied is so good that test specimens break either in the concrete or in the material later applied to the sanded surface.



SPRAYING MASTIC (LEFT) AND SAND (RIGHT) ON CONCRETE FLOOR.

MODERN PRINTING WORKS.

we give in this issue some illustrations of the new printing works in Stamford Street, London, S.E., which are being completed for Messrs. W. H. Smith and Son from designs by Mr. C. Stanley Peach, F.R.I.B.A.

The site is situated on the estate of the Duke of Cornwall, in Stamford Street, adjacent to H.M. Stationery Office, at present occupied as King George's Hospital for Wounded Soldiers; when completed with extensions it will cover an area of more than 41,000 ft., the site being divided into an island by a private road on the western side, communicating with Stamford Street on the north to the Strand on the south.

The principal printing-room will have a floor area of some 25,000 sq. ft., in the greater portion of the printing machines will be installed. It is for the part one-storey high and has a roof on two sides. The greater part of the floor area is top lit. The total cubic content of this room is over 1,000,000 cubic

feet. It is therefore one of the largest printing halls in this country.

The smaller printing machines or platens will be placed on the gallery on the eastern side, and the monotype and linotype machines and compositors' plant on the gallery on the northern side.

The second floor is entirely occupied by rooms for compositors and readers, and the upper floors by the offices, artists' studios, and foundry.

The block on the southern side consists of four floors, with paper store on the lower ground floor level, packing and despatch rooms slightly above ground level, and rooms for machine and hand cutting, folding, and binding on the two remaining floors.

The construction adopted is skeleton steel frame, in which rolled steel joists or compounds only are used. There are no plate girders in any part of the building. The structure is fire-resisting throughout, having isolated staircases and lavatory blocks at the four corners.

The structural steelwork is encased, and on the exterior where facing the streets it is covered with cement. The building has

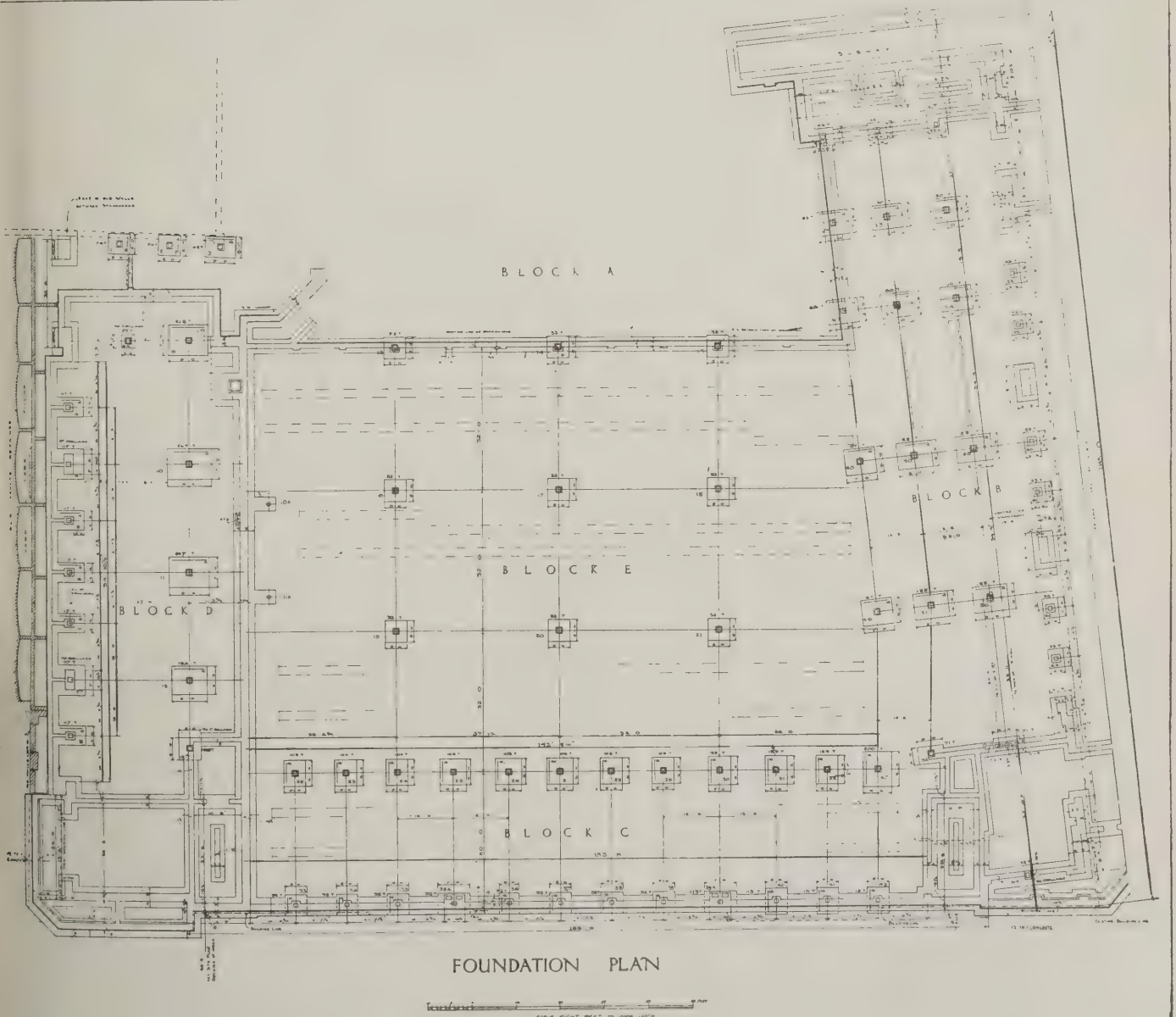
an exceptionally large glass area, such as is now deemed essential in buildings for business purposes.

Messrs. Holliday and Greenwood are the general building contractors. The steel frame was executed by Messrs. Dorman, Long and Co., Ltd., of Middlesbrough. The metal frame windows, glazed with fire-resisting glass, are by the Crittall Manufacturing Co., Ltd.; the roofs by the Kleine Patent Fire-Resisting Flooring Syndicate, Ltd.; the roof-glazing, plumbing, and sanitary work by Messrs. Mellows and Co., Ltd.; heating and ventilating by Messrs. R. Crittall and Co., Ltd.; lifts by The Medway Safety Lift Company; iron gates, railings, and grilles by The Birmingham Guild, Ltd.

Provision is made for conveyers for carrying white paper to the machines and printed paper from the machines to the folding rooms.

A system of sprinklers is being installed by The Newton Fire Extinguisher Company, Ltd. Fire-escape staircases are being provided by Messrs. Haywards, Ltd.

W. H. SMITH & SON, STAMFORD STREET, S.E.



C. STANLEY PEACH, F.R.I.B.A., ARCHITECT.

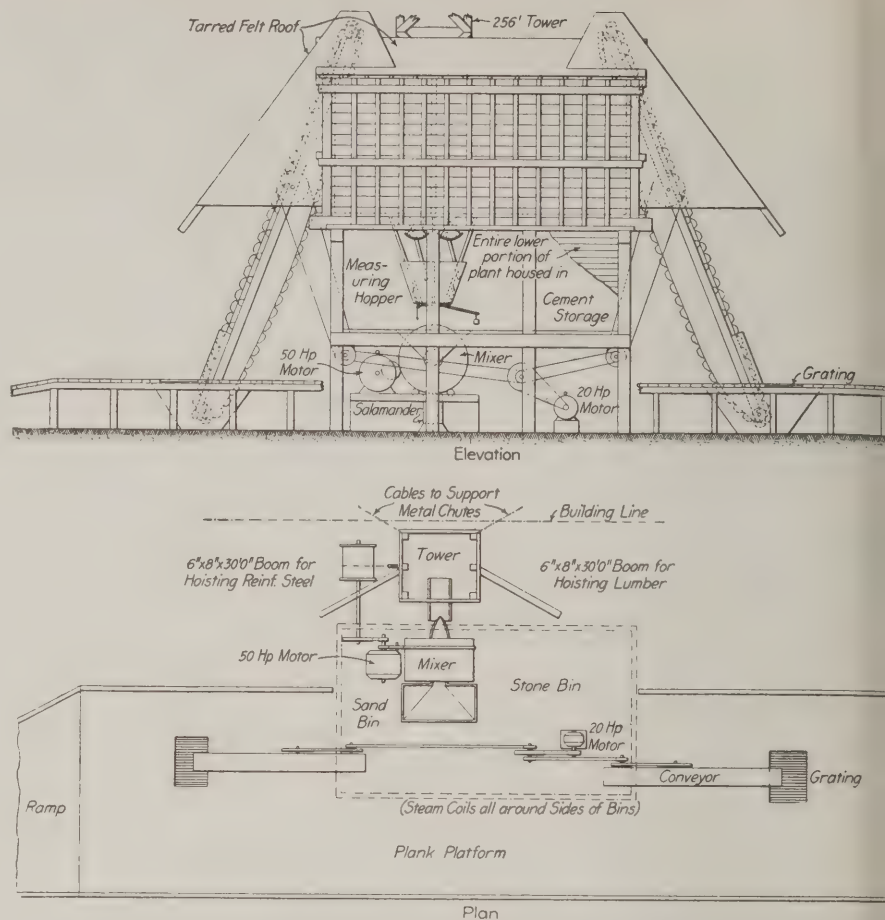
REINFORCED CONCRETE WORK ON A MAMMOTH HOTEL.

In our issue for August 18 last we gave some particulars and illustrations of the largest reinforced concrete hotel in the world—the new Hotel Traymore at Atlantic City, N.J. We now give a view of the east elevation, showing the towers and chutes employed in hoisting and delivering the concrete at the different floor levels, together with an illustration of the concrete mixing plant.

The reinforced concrete construction involved a variety of complicated form work. Only five floors of the building resembled each other sufficiently to allow forms to be used over without rebuilding. No less than 1,500,000 ft. of timber was required for this item alone. Also, 1,400 tons of reinforcing steel had to be handled and placed. Without a large and well-organized carpenter force, this form work could never have been built at such a rapid rate. From 100 to 140 men were employed in the day gang, and from thirty to forty at night. Forms for the columns, beams, and girders were erected in the day time, and the night shift was used simply for decking the floors.

Forms were poured as fast as they could be built, and this was followed closely with the trim and partition work and cement floor finish. From sixty to seventy labourers on the day shift handled the concrete and the materials, aided by a night shift of twenty men. On the brick and tile work 130 masons were used. As bricklaying could not well be carried out except in daylight, the night shift was utilised to stock the floors with a supply of tile brick and materials for mixing mortar for the next day.

For handling these materials an electric elevator with a speed of 800 ft. per minute was used. A fourth tower, erected between this and the south tower towards the end of the job, was used to hoist material for the plasterers. Form timber and reinforcing were handled by booms mounted on the two concrete towers which, with the mate-



HOTEL TRAYMORE: CONCRETE MIXING PLANT, WITH ARRANGEMENT FOR MIXING HOT CONCRETE FOR WINTER WORK.

rial elevator, were placed on the north side of the building. These concrete towers were built to the unusual height of 256 ft., and were braced from the building.

The plant for mixing the structural concrete is illustrated in the accompanying drawing. It was located at the tower farthest from the beach. Material was

delivered in bottom-dump wagons, emptied into pits in the street, and raised to the bins by light bucket elevators. The plant at the tower next to the beach mixed the cement floor finish, and helped out the main plant when necessary, placing the forced floor concrete amounting to more than 15 per cent. of the total yardage.



HOTEL TRAYMORE, ATLANTIC CITY: VIEW SHOWING TOWERS AND CHUTES FOR DELIVERING CONCRETE TO THE VARIOUS FLOORS.

plants were equipped with one-yard chutes, but that for the floor finish was fed by wheelbarrows dumped into a hopper on the roof.

The concrete on some of the lower floors was poured directly into the forms for a distance of 200 ft. from the towers, but on the upper floors, due to the difficulty of getting the spouting, the concrete was pumped only a distance of 75 ft. from the towers into hoppers and distributed from the hoppers by concrete carts. The floor was distributed by carts from the towers placed above the floors on which the work was going on. The two domes were built by direct spouting.

Most of the concrete and building materials were stored on vacant property at the job, siding half a mile from the job, and hauled to the site by motor trucks as needed. Cement was stored at the job in large quantities. A large cement storage bin was provided at the railroad siding.

Canvas covers around the outside of the poured floors, and numerous salubrious measures were used to prevent the concrete from freezing. Steam coils were put in the walls of the main mixing plant, and the water was also heated. These precautions were entirely effective. No delays from the setting of the concrete to set were experienced.

The architects were Messrs. Price and Johnston, of Philadelphia, and The United Steel Concrete Co. were responsible for the design of the reinforced concrete work.

Attention may be fittingly directed to the advantages offered by the newer methods and materials of construction. Prominent among these is the system of building with concrete blocks. At a time when labour has been so largely diverted to national service, economy in this direction is of the utmost importance, and the advantage is certainly not gained at the cost of efficiency.

Concrete blocks, it is claimed in an album recently issued by Messrs. Winget, Ltd., of Star Buildings, Newcastle-on-Tyne, save 50 per cent. in the labour of laying, as compared with brickwork. Further, there is a saving of 60 or 70 per cent. in mortar, whole beds of mortar, as well as collar and cross-points in the height being saved, while the internal face of blocks may be finished with one skimming of plaster instead of two or three coats. Then, the blocks are of unequalled durability, their strength increasing with age, and they are fire-resisting and vermin-proof. When built as cavity walls they render the structure proof against cold, heat, and damp.

Another important point of economy is the saving of cartage when the blocks are made on the site by means of the Winget machine, which is portable, and for which no power is required. It can be easily moved from job to job. The machine consists of a mould-box with hinged sides and ends carried in the machine frame hung on trunnions, with cores set inside. When

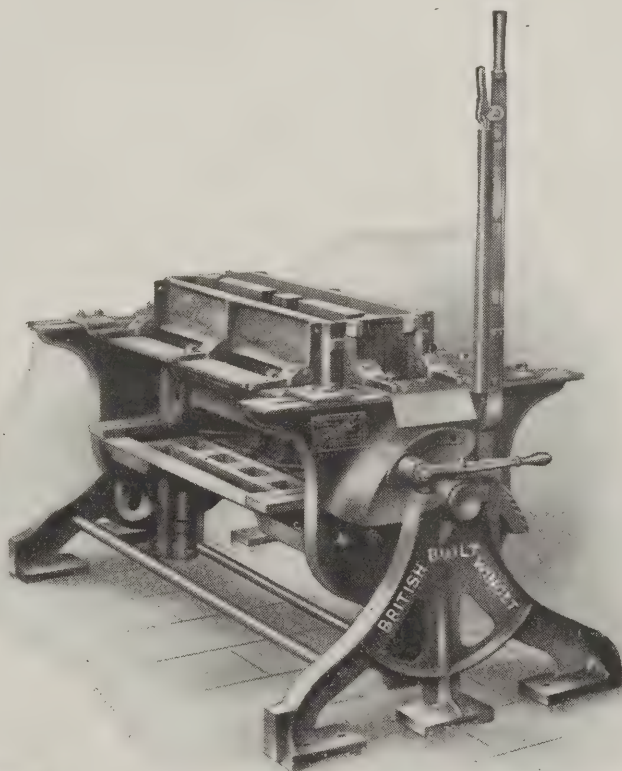
the lever is pulled down the bottom of the mould-box, which is formed with a loose pallet inserted for each block, is lifted up, and at the same time the sides of the box fall outward, leaving the finished block on the pallet ready to be carried off. Speed of output is a marked feature of the machine. Two motions, each instantaneous, suffice for the opening and closing of the mould-box, all that is necessary being to pull the lever down and put it back again, while changing the plates or cores for the production of a different size or type of block occupies but a few minutes, and the changing of the side or end door to alter the face of the block no more than a few seconds.

Blocks can be made solid or hollow, plain or rock-faced, and of any required size or shape. For string-courses, or for use at intervals to support an eaves spout, moulded and fluted spout corbel blocks, each 8 in. by 9 in., can be made four at a time, and the adaptability of the machine to varying requirements may be inferred from the large number of illustrations in the catalogue showing various forms and finishes, included among them being rock-faced blocks, pitched-off arris, neck-wallings, fleur-de-lys ornaments, column blocks for gate piers, copings, kerbs, etc. Various air-duct blocks, single, double, angle, or bevel, and agricultural field drain pipes, are made by the Winget machine, which, indeed, can be fitted with accessory moulds for the manufacture of any shape

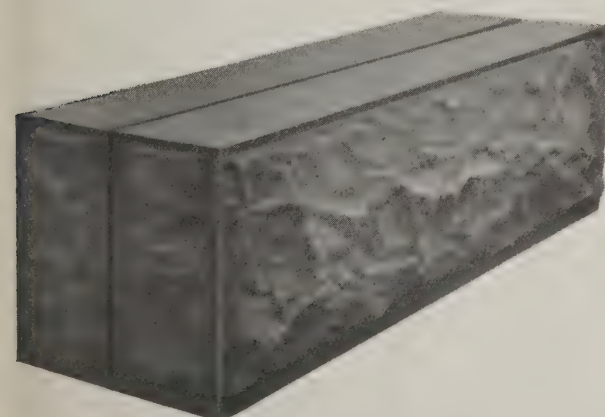
CONCRETE BLOCK PRODUCTION.

At the present moment there is a greater necessity than ever for the rapid construction of many kinds of buildings. Large numbers of dwellings are needed not only for the accommodation in new situations of vast numbers of munition workers, but also in order to prevent or to appease the famine that has already become acute in some districts, and threatens to become general. Also, besides the necessity for constructing quickly and economically buildings as the War Office may require—and they are many and various, ranging from camp huts to large barracks and hospitals—there is arising a steady demand for the erection of many kinds of factories and other business premises which are required now, and will be increasingly demanded in the future in order to cope with the industrial and commercial expansion which is certain to ensue from the commercial conditions consequent on the war.

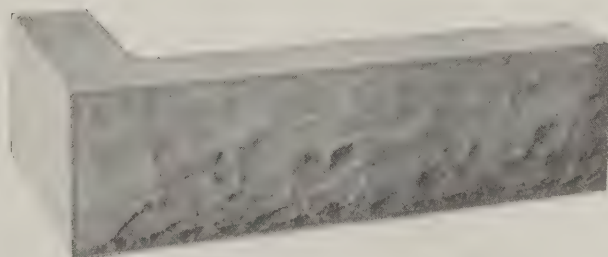
The newer conditions bring into play new experiences, and at the present juncture



The "Winget" Machine.



Block with Two Surfaces—Rough Stone and Smooth.



Quoin Block with Stone Surface.

CONCRETE BLOCK MAKING.

or pattern of cement block, brick, or tile. Where the Winget flue blocks are used the cost of parging is saved.

Buildings of many types are illustrated in Messrs. Winget's album. They include garden suburb bungalows, miners' and other cottages, large and small villas, farm steadings, loose-boxes, various factories, workshops, and offices, power-stations, retaining walls, coast-defence works, bridge piers, boundary walls, water towers, reservoirs and water tanks, railway stations, parochial and mission halls, a theatre, a hospital, administration buildings for the Para Government, law courts at Sierra Leone, Government schools, a bank, a palace in Madras, a post office in Sierra Leone, and several other buildings at home and abroad. These demonstrate not only the diverse applicability of the Winget products, but, in many instances, the very pleasing appearance they show in elevation.

Messrs. Winget's book includes a very useful outline specification for manufacturing blocks and building cavity walls, etc., besides much other practical information.

OBITUARY.

Killed in Action.

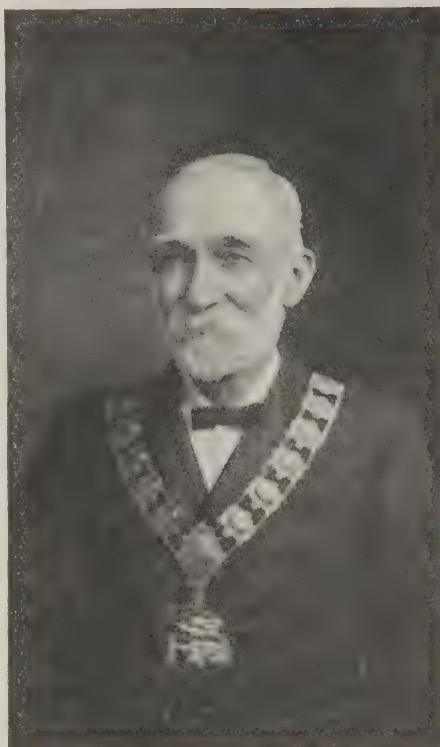
Mr. Charles Henry Rowed Henman, Licentiate R.I.B.A., of the Royal Naval Division, and son of Mr. Charles Henman, F.R.I.B.A., was killed in action at the Dardanelles on July 29, aged thirty-seven. Mr. Alexander Wingate, Licentiate R.I.B.A., second-lieutenant, 9th Highland Light Infantry, was killed in the recent fighting in France. Articled to the late Mr. Miles S. Gibson, he was afterwards successively in the offices of Sir John Burnet in Glasgow and of Professor Beresford Pite in London. Starting practice alone in 1904, he afterwards entered into partnership with Mr. J. Campbell Reid, F.R.I.B.A. Mr. Charles Joseph Newbery, student R.I.B.A., of the 3rd Royal Fusiliers, has died of wounds.

Mr. Graham Nicholas, F.R.I.B.A.

Mr. Graham Nicholas, who has died at Lynton at the age of forty-four, served his articles with Mr. F. A. Tugwell, of Scarborough, and afterwards worked in various London offices, including those of the London School Board and Mr. Mervyn Macartney. Starting practice in 1895, and entering into a partnership in Halifax in 1899, he designed many important buildings in the North of England—schools, residences, banks, and church extensions.

Mr. A. B. M'Donald.

The death is announced of Mr. A. B. M'Donald, M.Inst.C.E., the late City Engineer of Glasgow. Mr. M'Donald was in the service of the Corporation for forty-five years, and during twenty-five of these he occupied the position of City Engineer. He retired on pension in June last. The period of Mr. M'Donald's occupancy of the office was exceptionally strenuous, and during the last two decades few cities have equalled Glasgow in the extent and number of their public undertakings. In all these schemes Mr. M'Donald bore a conspicuous part, and of some of the most important he was the designer. The greatest and most ambitious undertaking, both in respect of cost and the difficulties to be surmounted, was the Glasgow Main Drainage Scheme, which, next to that of the London County Council, is the largest in the world. The scheme for the collection and treatment of the sewage of the



THE LATE MR. GEORGE MACFARLANE, J.P., whose death on October 22 was recorded in our issue of October 27. See also editorial note in the JOURNAL of November 3.

city and adjacent local authorities includes territory on both sides of the Clyde for a distance of 15 miles, and the sewage and rainfall treated is 254,000,000 gallons per day. The entire area is divided into three sections—eastern, western, and southern. Mr. M'Donald was responsible for the carrying out of the whole undertaking, and he designed the western and southern sections, the eastern section having been designed by the late Mr. G. V. Alsing. Other important works carried out by the late City Engineer include the Foreign Animals Wharves and Slaughterhouses at Yorkhill, which were superseded by the extensive erections at Merklands; the extension of the Moore Street Slaughterhouse; the Cattle Market; and the Fruit Bazaar and Cheese Market. In addition to these communal necessities Mr. M'Donald designed also a number of public buildings, such as the People's Palace, the Central Fire Station, district fire stations at Queen's Park, Maryhill, and Springburn; the Central Police Office, several district police offices, and district libraries, baths and washhouses. Among city municipal engineers he occupied a high place, and he was frequently summoned to give expert evidence as to various schemes.

Halifax Contractor's Accidental Death.

An inquest was held last week on the body of Mr. Gilbert Raynor, a well-known builder and contractor of Halifax. It was stated that Mr. Raynor was engaged in superintending the erection of extensions to the works of Messrs. Gaukroger, Sykes, and Roberts, steam fitting manufacturers, in Spring Hall Lane, Halifax. He was standing near the wall of the building, when a cart loaded with boulder, which was coming round the corner, caught one of poles supporting the scaffolding. This had the effect of bringing the scaffolding down, and before Mr. Raynor could jump clear he was struck down by the falling pole. His skull was fractured, and he died at the Royal Halifax Infirmary an hour later. A verdict of "Accidental death" was returned.

ARCHITECTS AND NATIONAL SERVICE.

The following letter has been received from the Architects' War Committee, is signed by the President and by no less than seventy other leading architects:

Sir,—The Architects' War Committee, which was founded at the outbreak of the war with the object (amongst others) of offering to the Government the expert services of the architectural profession throughout the country, has been deeply impressed by the letter of Majesty to the people, and the utterance of the Prime Minister, Lord Kitchener, and the Minister of Munitions upon the need for increased war service by men of all classes.

The Committee has had under consideration for some time the means whereby the profession may still further assist in meeting the needs of the present crisis by a more complete organisation in harmony with the developments which have taken place during the past year.

The committee feels that the present time, while Lord Derby's great efforts at voluntary recruiting is before the country, is an opportune moment for initiating such an organised movement. It is believed that when the time comes for analysing statistics architects will be found to have ranked well with other professions in the extent of their response to the country's call. There must, however, be many who are able to help and who appreciate the greater need for war service, and among them a number who are coming forward through lack of knowledge of the direction in which their special attainments can best be utilised.

The War Committee, therefore, proposes through the courtesy of the columns and through its sub-committees and the various architectural societies throughout the country, to bring to the notice of all architects the fact that it welcomes particulars from all those who wish to offer war service.

Forms upon which the required information is to be furnished can now be obtained on application to the Central Committee at 9, Conduit Street, London, W., or any of the architectural societies throughout the country.

[Our contributor "Ubique" deals with this subject *more suo* in this week's "Notes and There."]

Wounded in the War.

Mr. Laurence A. Dircks, A.R.I.B.A., son of the librarian of the Royal Institution of British Architects, has been wounded for the second time, severely. He is in hospital in England and making progress towards recovery. He is a tenant in the 18th London Regiment. C. R. B. Godman, Licentiate R.I.B.A., Major, 4th Royal Sussex; Mr. Arnold, A.R.I.B.A., second-lieutenant, South Staffordshire Regiment; and P. H. Keys, Lieutenant, Royal Engineers, have also been wounded—Mr. S. severely.

A Plasterwork Contract.

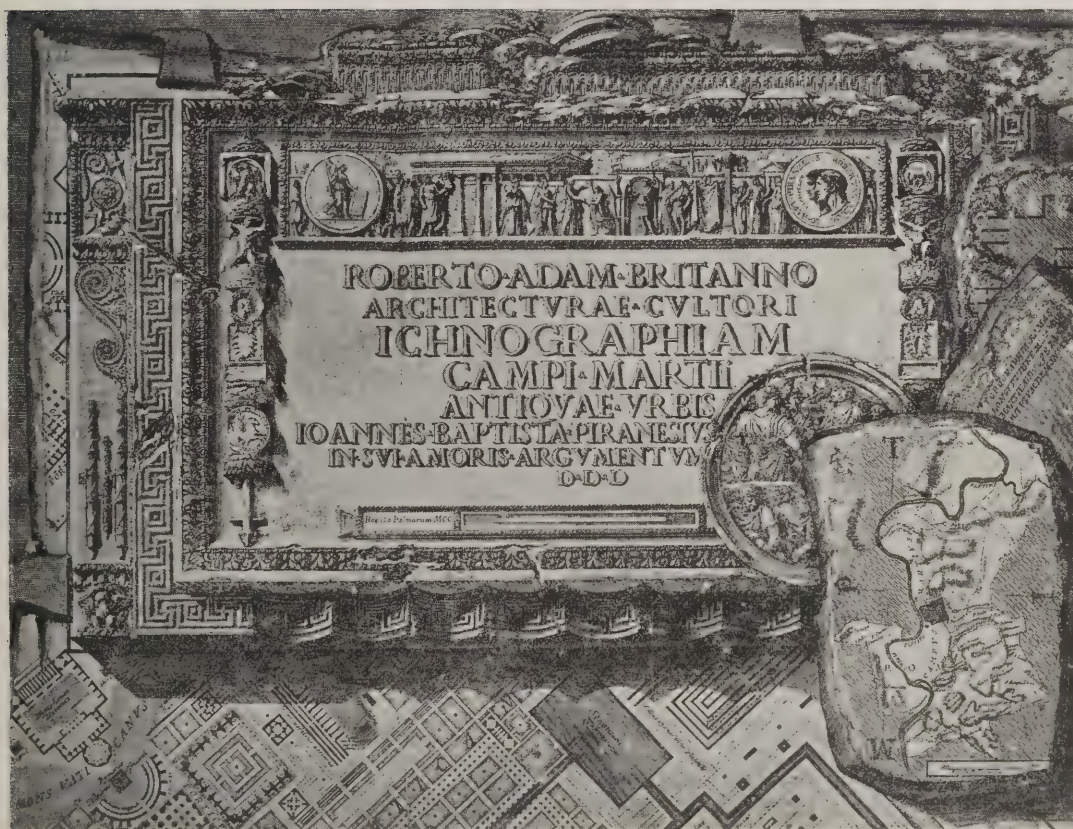
Messrs. John Tanner and Sons, London and Liverpool, have been entrusted with the modelling, finishing, and plasterwork, and their "Petrified Fossils" plasterwork at the new premises of Messrs. W. H. Smith and Sons in Portico Street, Kingsway, London, W.C., of Messrs. Ellis and Clarke, of London, are the architects.

THE ARCHITECTS' & BUILDERS' JOURNAL.

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(From Piranesi.)

THE ARCHITECTS' & BUILDERS' JOURNAL.

NOVEMBER 17, 1915.

TOTHILL STREET, WESTMINSTER.

VOLUME 42. No. 1089.

EDITORIAL.

ONE marked effect of the great war is the evidence it has brought out of the general and appalling ignorance of what is meant by "economy." Its primary significance of "domestic management" is interpreted in the silly catchphrase "Make one penny do the work of two"; and municipalities are equally crude in their conception that "economy" consists in the cutting down of expenses in every direction. If the matter were as sublimely simple as that, the professors of economics were better employed in trench-digging; but parsimony and economy are very different matters, and there are many points at which the two things are in direct antagonism. Real economy frequently takes the form of wise expenditure, of investment with prudence and foresight, of "laying out money to the best advantage," as the popular phrase has it. How to do that, and, again, how to extract the last particle of utility from material resources or from mental energy—how, in effect, to make the very best of things all round—are operations of so much more complexity than mere abstention from spending or acting as to make the easier and more obvious course very general.

* * * *

Even the London County Council has fallen into this deplorable misconception of the principles of economy. Its one idea is to cut down expenditure; and its niggardly and shortsighted policy of saving pence that will ultimately cost it pounds will no doubt commend itself among uneducated ratepayers as the essence of financial wisdom. "A penny saved is a penny gained," is for the moment a much more popular proverb than "Penny wise, pound foolish"; and so the Council is perfectly safe in cutting down on schools. Losing the ship for the sake of a ha'porth of tar is a good enough precedent for spoiling the school for the sake of a pen'orth of paint, those who at present think otherwise being hopelessly outvoted. It is deplorable that, by losing its head in this weak way, the London County Council should set so bad an example of indiscriminate "saving on the estimates."

* * * *

As a rather ludicrous instance of the lengths to which municipalities are stretching their efforts for so-called "economy," it is useful to cite the case of a council that has stopped the issue of fiction from its free library! This, though absurd in the extreme, is hardly more absurd than the action of the L.C.C. in neglecting the upkeep of their school buildings and in compelling their teachers to take still larger classes than those which, on every sound theory of education, were already too large, as the Council well knew, because the Board of Education had sharply reprimanded them on this very point, and

had imposed upon them the duty of providing smaller class-rooms; which duty they had evaded to the verge of scandal. Once again they are at the old trick of cheapening and belittling education, and this at the very moment when national exigencies indicate more clearly than ever that education is essential to national efficiency and progress.

* * * *

No doubt the Germans have brought education into very bad odour. If their fine schools, lavishly expending, and highly elaborate organisation for expression in "Lusitania" and "Ancona" sinkings, Scarborough bombardments, Zeppelin raids, the destruction of noble cathedrals, the murder of hospital nurses, and other outrages too horrible to name, then education stands condemned; or, at least, events, one can see that it can be greatly overdone, and this is an excess which we shall be in the future careful to avoid. This, of course, is a foolish line of argument; but it is greatly prevalent among the public, such as regard a specious half-truth as a critique of pure reason, and it has probably had a certain amount of influence on the London County Council. Let it be granted that ethically the German system of education is demonstrably diabolical; yet, as a value as an efficient instrument is equally apparent, and we cannot afford to neglect, even temporarily, the chief means by which the enemy has become so formidable in peace and war. Large classes, overburdened teachers, and dilapidated class-rooms do not make for the maintenance of educational efficiency, and the paltry saving which the Council seeks to effect by such means is utterly insignificant in comparison with the injury that is certain to accrue. Education in the universities, in technological institutions, in the architectural and engineering schools, is suffering a set-back that is unavoidable, every fit student being with the force of the war, and there is therefore the more reason why secondary education as can be carried on with no lack of pupils and no real dearth of teachers, should suffer no material detriment. This subject of national education is of first-rate importance to architects, whether or not they are immediately and directly concerned in school design, because it lies at the root of public appreciation of art, and because the unsympathetic attitude of public authorities towards elementary education, or any narrow and materialistic conception of its value and functions, have an adverse influence in other directions, including those whence recruits to the professions are drawn.

* * * *

With respect to the observations we made last week on the hardship from which many professional men would suffer acutely if they were remorselessly

d to the three years' average system of assessing the income tax, a correspondent calls attention to an interesting point that deserves to be taken into account, if only for its recruiting value. "If," writes, "you undertake Government work or in the forces, your rate is assessed on the actual results of the current year, and this is an additional reason for joining some branch of the national service." Our correspondent will forgive us the comment that it is a very dubiously patriotic reason, though he is probably right in assuming that in some cases it might sway the balance of a mind in equipoise. We therefore adduce it with all reserve, and all the more reluctantly because we cannot help feeling that it does not strengthen the case of those who, however willing to render direct service to the country, are debarred from this privilege.

The first member of the Architectural Association to receive the Military Cross is Captain William Arnold Hillyer, of the 3rd London Field Company of the Royal Engineers. It has been awarded to him for conspicuous gallantry and devotion to duty in mining operations at Hill 60, near Ypres, between April 2 and 17. Lieut. Hillyer (he has since been promoted to captain) was entrusted with the task of completing and charging one of our mines, a work involving great difficulty and strain. In the words of the official report, he "worked and watched long hours at the end of a gallery 165 ft. long and 3 ft. 2 ft. 3 in. in size, knowing that the enemy was undermining close by. His pluck and endurance were remarkable, and resulted in the successful explosion of the mine and consequent capture of the hill." Splendid indeed! Congratulations to Captain Hillyer, and to the A.A. on its right to feel specially proud of the exploit and the honour.

The Military Cross has been awarded also to temporary Second-Lieutenant Charles Emerson Clouting, A.R.I.B.A., of the 1st Battalion of the Buffs (East Kent Regiment), for conspicuous gallantry on the night of September 21, 1915, near Forward Cottage, when on patrol duty with Captain Colville. Within fifteen yards of a German sap which the patrol was reconnoitring, Captain Colville was shot. It was impossible to take him back, but, upon the return of the patrol, Second-Lieutenant Clouting led forward a rescue party. Captain Colville was killed and dead, and, recognising that numbers would be a source of danger, Second-Lieutenant Clouting sent back all his party except a sergeant. In bright moonlight, and under a heavy fire, the second-lieutenant and the sergeant crawled back, dragging the body with them. Truly a gallant deed, the more admirable for its humane impulse.

We note with pleasure two excellent appointments to the Ministry of Munitions. Mr. S. H. Over is to be Assistant Financial Secretary, with charge of the Finance Department, and Mr. Henry Holloway is to be Director of Housing Construction, with special reference to the provision of temporary accommodation for munition workers. These are described as "appointments in a voluntary capacity," whatever that may mean. Mr. Henry Holloway, J.P., is governing director of Holloway Brothers (London), Ltd., and was in 1896 president of the London Master Builders' Association, and in 1898-9 president of the Institute of Builders. His third son, Captain Bernard H. Holloway, was killed in France in the great advance of September 27. Mr. Henry Holloway's practical knowledge and experience should be of immense advantage to the Government, which, we trust, is at length coming to a fuller realisation of the value of

the expert advice and assistance that architects and builders have been from the outset ready and willing to render.

In ordinary times, a formal and fore-ordained dinner, with its accompanying feast of reason and flow of soul, is doubtless a most effective instrument of charity. Not only does it bring together, at regular intervals, old friends who may have no other opportunities of meeting, or old rivals who on such occasions must needs observe a truce, but it creates exactly the kind of atmosphere in which benevolence is best brought to a head. For the moment, however, banqueting and junketing are discordant with the public mood, and it is not surprising to hear that the annual dinner of the Builders' Benevolent Institution, which falls due in November, has been abandoned. Its main objective cannot be thus lightly set aside. With the increased cost of living consequent upon the war, it is more than ever necessary to extend a helping hand to those who in an emphasised sense have indeed fallen on evil days. Mr. Frank May, who, as treasurer of the Institution, is putting forward an appeal that would have been made by Mr. George R. Holland (of Messrs. Holland and Hannen and Cubitts, Ltd.) if that gentleman had not been engaged in military duties, earnestly urges that the excellent work the Institution is doing should not be allowed to languish. A sum of more than £1,900 is required for the maintenance of the pensioners that the Institution has on its hands; and as the income from investments is only £700, while the average amount realised from annual subscriptions is but £300, it is obvious that there is a deficiency of more than £900 to be met. We sincerely trust that at least this sum will be raised without much difficulty; for this is the only institution of its kind in the country, and any curtailment of its truly benevolent activities would be a reproach to the great building industry, which, even in these days of financial stress, can surely afford to succour its decayed or disabled contingent. Mr. T. Costigan is the secretary of the Builders' Benevolent Institution, and his offices are at Koh-i-Noor House, Kingsway, London, W.C.

Much indignation has been wasted on a perfectly innocent suggestion made by a witness at the Glasgow enquiry into the increased rent question. He expressed the opinion that a lighter type of dwelling should be adopted than that familiar in Glasgow. Whereas in Scotland tenements were erected to last for 150 years, with the result that in their lingering decay they became slums, power should be given "to erect houses which would drop to pieces in sixty years." The heavier houses in Scotland accounted for the dearer rents compared with England. A popular newspaper gave wide currency to this opinion under the sinister heading "Virtue of Jerry-building," and thus prejudiced the subsequent copious discussion. Building in Scottish cities is exceptionally well done, and the Scots are justly proud of it, but that is no reason why they should scoff, as they continually do, at the lighter methods prevalent in England. A Scotsman, accustomed to the general heaviness of construction appropriate to a stonework carcass, regards brick buildings and their lighter timbers and fittings with supreme and indiscriminating disdain. To him all brickwork houses are "jerry-built," irrespective of class and quality. This use (or abuse) of the term, whether as a newspaper heading or otherwise, therefore loses all force, and English builders need never take it to heart. But it is clear that prejudice against innovation runs uncommonly high in Scotland.

HERE AND THERE.

BATH is one of those places which compel you to conjure up a picture of their great and glorious past. In the case of Bath it is a past with two heydays, separated by a gulf of forgotten time; in short, Bath as the Romans knew it in the first century, and Bath as gentility knew it in the late eighteenth and early nineteenth centuries. You may gaze on the relics of both periods, one a ruin, displaying the great constructive talents of the Romans, the other preserving its form intact, a form made up of classical elements and a scholarly knowledge of architecture—here a storeyed Circus of houses around a green centre, there a gigantic Crescent of the same kind, Palladian houses with serious looking doorways, and in many a street an old shop-front with small panes, delicate consoles, and reeded pillars (such as the one shown in this delightful sketch by Mr. Harold Falkner, now a Corporal in the Royal Engineers)—these constituting a picture of Georgian England, its coaches and sedan-chairs, its powdered wigs and spy-glasses, its gamy amusements and social tragedies; and all this despite the relentless spread of modernism, which now enables the visitor to make a tour of the city in a sumptuous motor car, to enjoy the flickering delights of a cinema, and, under lively municipal control, provides him with every conceivable application of the hot springs, from the simple benefits of the Grand Pump Room to such things as a Scottish douche, a bran, oatmeal, or soda bath, or a Plombières douche with reclining bath and Tivoli douche (5s.). The genteel society of Beau Nash's day knew nothing of these modern adaptations of the waters, and at the later date associated with Mr. Pickwick's name simple water-drinking was the great occupation. Sam Weller, as we know from the immortal record, was not entranced with the flavour of the waters. To Mr. John Smauker, doyen of the Bath footmen, he declared them to be "particklery unpleasant." Said Mr. Smauker, "You disliked the killibeate taste, perhaps?" "I don't know much about that 'ere," said Sam, "I thought they'd a wery strong flavour o' warm flat irons." But whatever was his valet's opinion, Mr. Pickwick himself thoroughly enjoyed the waters of Bath, which he drank with "the utmost assiduity." "He drank a quarter of a pint before breakfast, and then walked up a hill; and another quarter of a pint after breakfast, and then walked down a hill; and after every fresh quarter of a pint Mr. Pickwick declared, in the most solemn and emphatic terms, that he felt a great deal better; whereat his friends were very much delighted, though they had not been previously aware there was anything the matter with him. . . . Every morning, the regular water-drinkers, Mr. Pickwick among the number, met each other in the pump-room, for their quarter of a pint, and walked constitutionally. . . ."



SHOP IN BOND STREET. BATH.

(From a Pencil Sketch by Harold Falkner.)

This Grand Pump Room happens just now to be of topical interest, for last week it was reopened after having undergone a cleansing architectural process, under the direction of Mr. Alfred J. Taylor, the architect to the Baths Committee. It has been restored to what was practically its original condition when the City architect, Baldwin, and his colleague, John Palmer, completed the building in the last years of the eighteenth century. It is certainly a beautifully proportioned apartment, with a certain air of good breeding about it, and it has gained its new life largely by the removal of various features that Victorianism had encrusted upon it. The sole relic of these is in the semi-circular apse around the fountain, where a series of very mediocre stained glass windows and a white marble Angel by the late John Warrington Wood serve to disturb the water drinker who possesses an eye for congruity in architectural decoration. I had read that the redecoration scheme was "ivory white and cream picked out with gold," and remembering the horrors that have been perpetrated in that guise I feared for the old Pump Room. But, renewing acquaintance

with it, I found that the work of restoration had been in good hands. Beau Nash, in his niche at the end of the room, now looks round and about him with evident satisfaction. It is as it used to be. The celebrated "grandfather" which Thomas Tompion, the London clockmaker, presented in 1709 as a thank-offering for Bath's cure of his ailments, retains its accustomed place below the Master of Ceremonies and the old furniture has reappeared (the Chippendale settees made for the Pump Room were broken during an election ninety years ago, while the seats vanished entirely, but were found recently in a lumber cellar). The original gilding on the caps of the Corinthian columns that embellish the Pump Room has been retained, the added gold has been toned down to match it nearly as possible. Put briefly, in the queer phrase of an official description, "nothing of the desirable antique has been interfered with." The large window in the room has been filled with clear glass and thus one can look out again on the King's Bath—that spot which was so great a source of amusement in Stuart days, as witness Pepys: "In the afternoon I went to make boys dive in the King's Bath, 1s." There are, too, some tall old mahogany doors of beautiful figure and finish, such as we cannot get to-day. Altogether the Grand Pump Room at Bath is now a very pleasing apartment, and the responsible for its restoration deserve our thanks. I have more to say of Bath, of its eighteenth century architecture and its great Roman remains, of what Bath is doing so generously for officers and invalided home from the Front, providing them, free of cost, with every form of treatment for their stiffened limbs and aching wounds; but space forbids, and further comment must be held over next week.



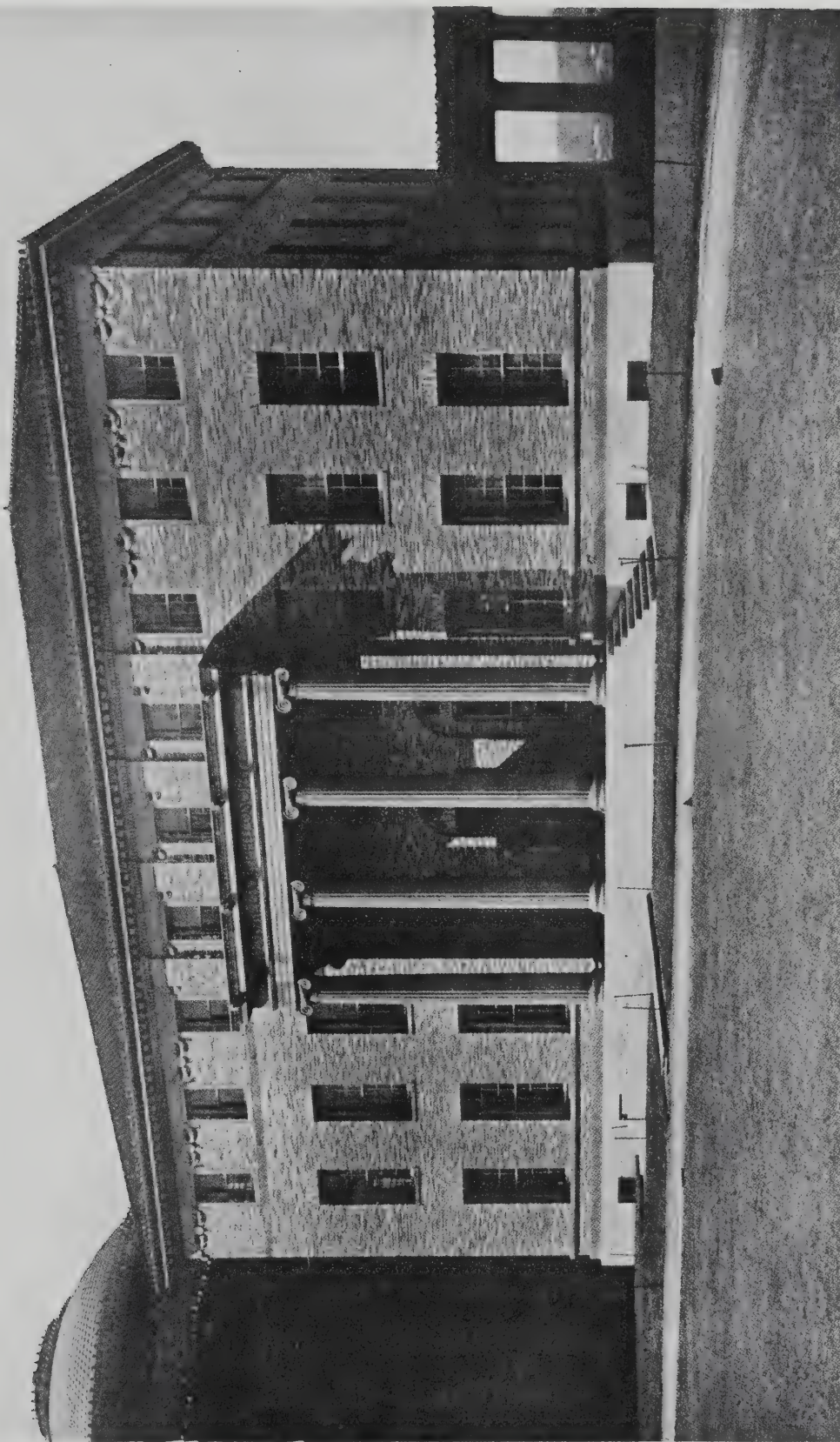
LONDON FAÇADES. I.—THE ST. JAMES'S CLUB, PICCADILLY.

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CURRENT ARCHITECTURE (SERIES III.). VII.—CATHOLIC CHURCH, SHERINGHAM, NORFOLK.
G. GILBERT SCOTT, F.R.I.B.A., ARCHITECT.

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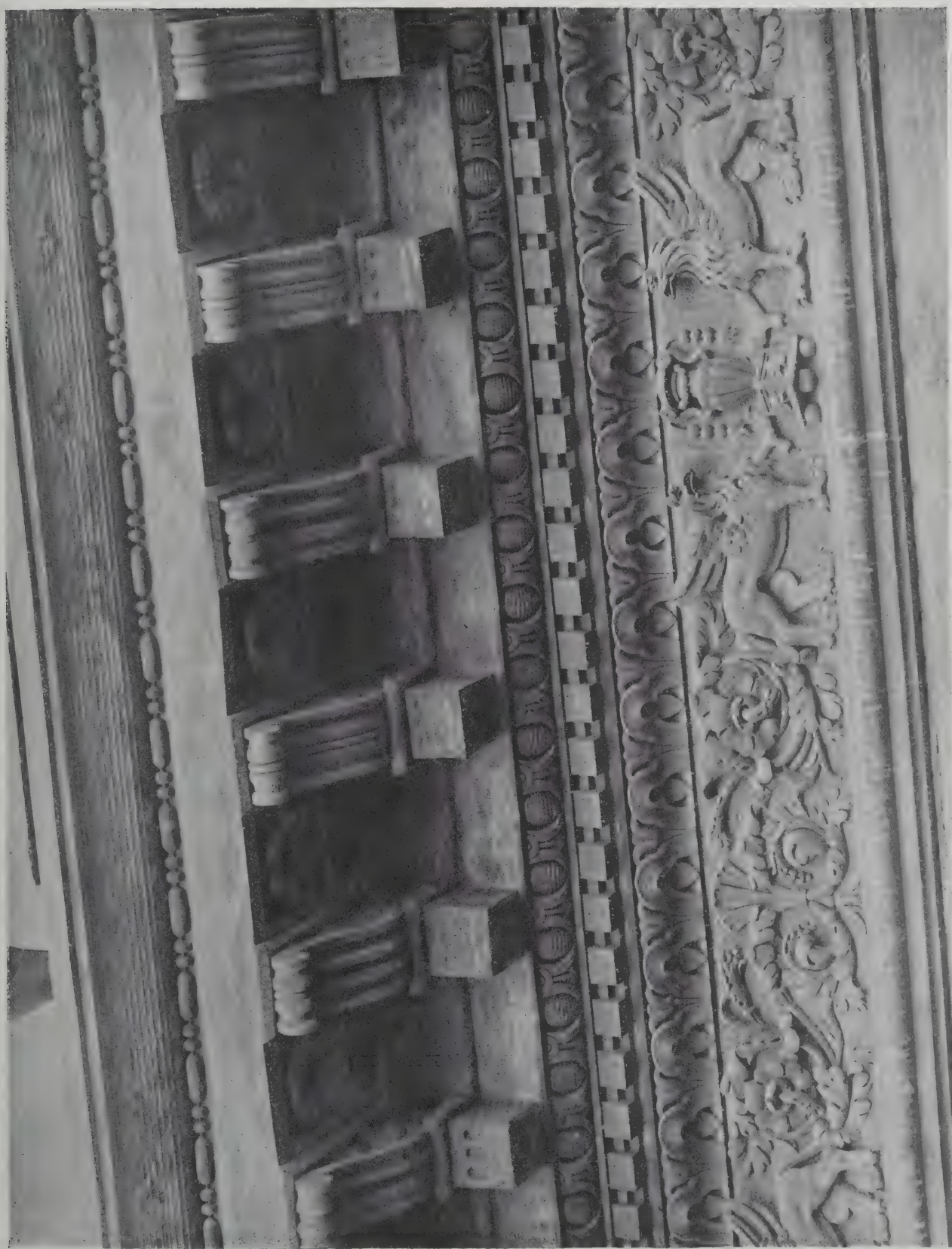


MODERN AMERICAN ARCHITECTURE. XXV.—HALL OF PHILOSOPHY, NEW YORK UNIVERSITY, NEW YORK.
CROW, LEWIS AND WICKENHOFER, ARCHITECTS.

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MONUMENTS. I.—THE ENTOMBMENT OF CHRIST, ABBEY CHURCH OF SOLESMES, FRANCE.



DETAILS OF CRAFTSMANSHIP. XL.—CORNICE TO PALAZZO MANNELLI RICCARDI, FLORENCE.
BUONTALENTI, ARCHITECT.



Photo : Thomas Lewis, Ltd.

CURRENT ARCHITECTURE (SERIES III.). VIII.—RACECOURSE STAND, CHELTENHAM.

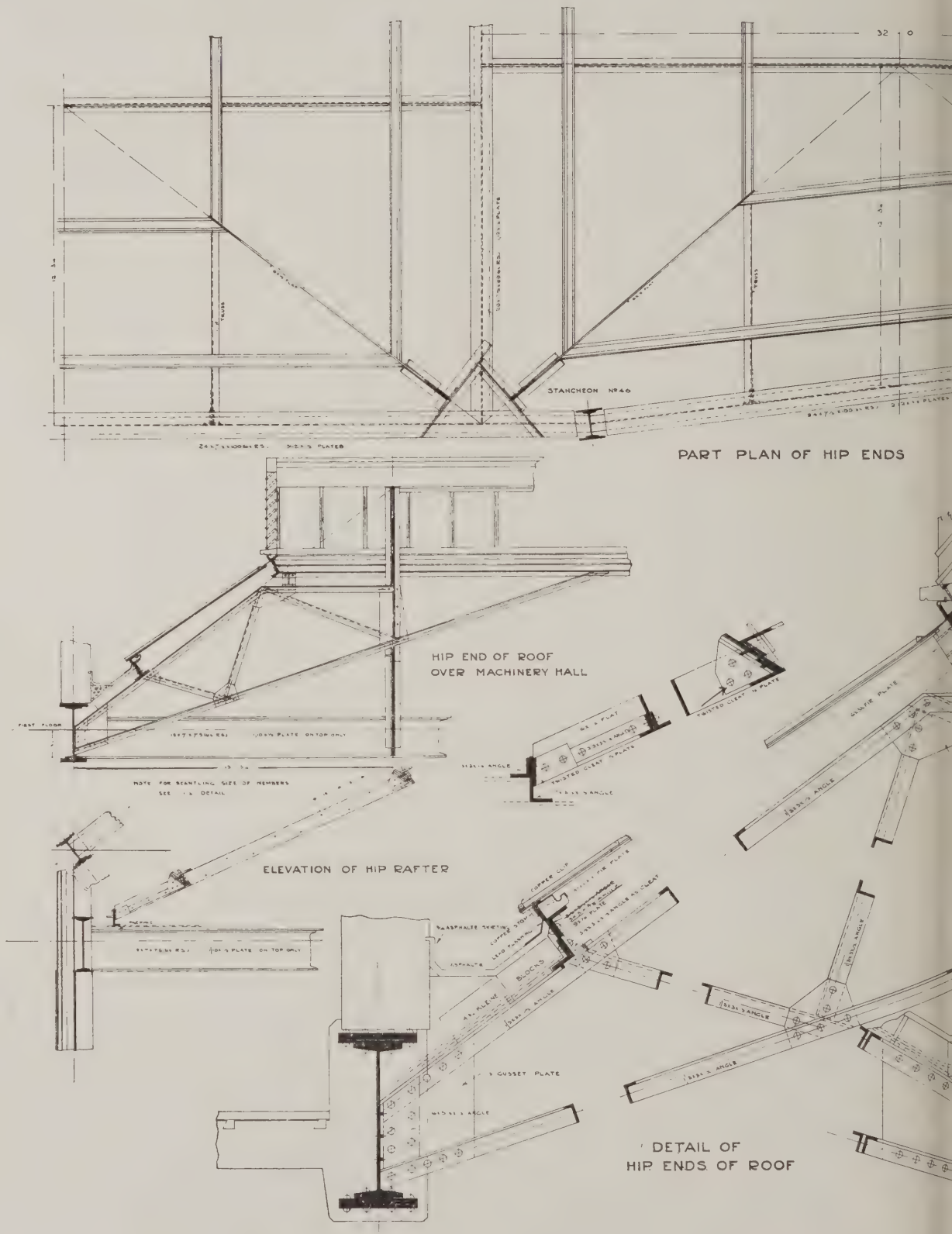
CHATTERS AND SMITHSON, ARCHITECTS.

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NEW FACTORY FOR M^{ESRS} W. H. SMITH & SON STAMFORD STREET

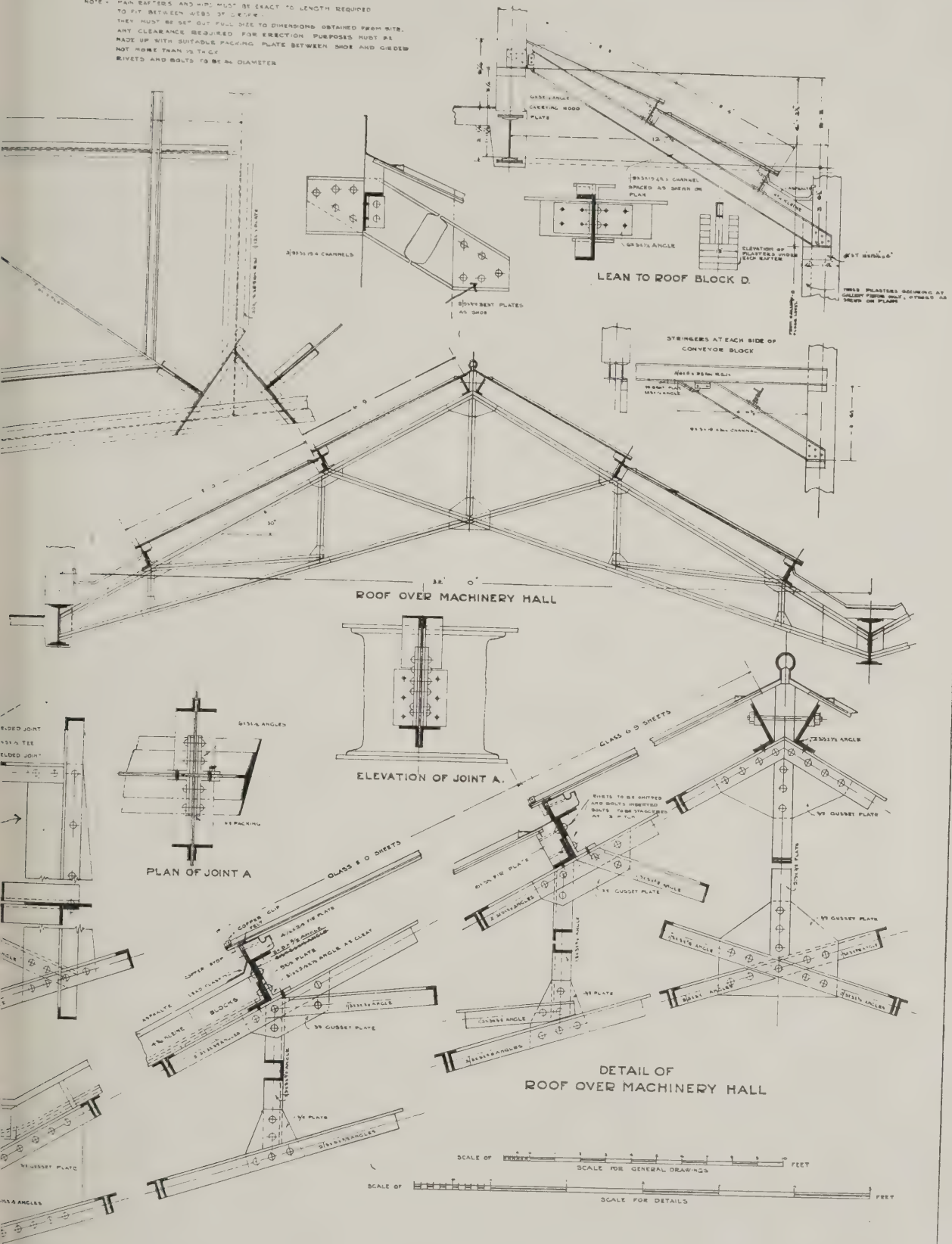
DETAILS OF ROOFS OVER MACHINERY HALL AND PART OF BLOCK

SHEET N^o 6.



DRAWING N^o 10939.

NOTE - MAIN RAFTERS AND HIRLS MUST BE EXACT TO LENGTH REQUIRED TO FIT BETWEEN JOBS OF LKING. THEY MUST BE SET OUT FULL SIZE TO DIMENSIONS OBTAINED FROM SITE. ANY CLEARANCE REQUIRED FOR ERECTION PURPOSES MUST BE MADE UP WITH SUITABLE PACKING PLATE BETWEEN SHOE AND GIRDERS NOT MORE THAN 1/2 INCH THICK. RIVETS AND BOLTS TO BE 3/4 INCH DIAMETER.



G STANLEY PEACH
FRIBA
VICTORIA MANSIONS
32 VICTORIA STREET
LONDON S.W.

NEW PREMISES FOR W. H. SMITH AND SON, STAMFORD STREET, LONDON, S.E.
ARCHITECT.

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THE PLATES

Façade of the St. James's Club, London.

The building in the "dip" of Piccadilly in which the St. James's Club is housed was known formerly as Coventry House. It was built by Hugh Hunlock, whose initials may be seen on a cold lead cistern, bearing the date 1761, in the area. Unfortunately for Sir Hugh, however, appears to have built without counting the cost, at in 1764, when his house was still unfinished, as compelled to sell it to the sixth Earl of Derby for ten thousand guineas. Though it is assumed that Robert Adam was engaged on the selection and decoration of the interior, it is possible to state with certainty who was responsible for the original design of the house. Main features seem to indicate Sir William Chambers—the general composition and the detail of the façade are suggestive of his capable and refined handling, and the name of Matthew Gwinningham has also been put forward in this connection. But beyond these ascriptions to ownership it is not possible to go. It must be remembered that the work of the architects of the eighteenth century was much more of one school than is the case to-day; and with the smaller and more important buildings, unless some clear record exists, it is extremely difficult to ascribe them to any particular artist. Whoever's work it was, however, the front of the St. James's Club is one of the most dignified façades in Piccadilly. It is, as the foregoing comment suggests, a work of the late Georgian period. The front is divided by windows into five bays, the lower storey being a series of fully rusticated arches with plain ashlar filling. The sash windows have somewhat lost in scale through the injudicious removal of the glazing bars (about twenty years ago). This storey is divided from the first floor by a projecting balcony carrying an delicately modelled iron railing, continued throughout the length of the front, opening on to which are the windows of the principal rooms. One of the noticeable features of the design is the treatment of the heads of these windows, with their combination of pointed and curved pediments—an arrangement which is usually productive of a sense of interest and uncertainty, but as used here is quite satisfactory, the curved pediments on either side of the central opening serving to accentuate the greatly emphasised importance of the central doorway, which is further enhanced by the addition of supporting brackets. The design as a whole may be said to be the last brilliant flicker of the Georgian school, which was shortly to give place to the work of Adam and the later men.

Catholic Church, Sheringham.

This church consists of nave, chancel, aisles, and transept; the presbytery joins on to the church at the end of the transept and contains the vestry and sacristy. The building is built of thin red brick-faced bricks, with Weldon stone dressings for windows, doorways, arches, etc.; inside, the walls are plastered. The roofs of the aisles and transept are covered with greyish red sand-faced tiles, while the roof of the nave, which is of rather steep pitch, and is concealed behind a parapet, is covered with slates. The simple king-post construction of this roof shows within the church, and is painted in colour. The sanctuary has a black and white marble floor, and the altar and reredos are of marble. The reredos is coloured and gilded, and beneath the altar is a carved wooden reliquary case similarly ornamented. There is also a large gilded rood, marking the junction of the nave and chancel. The length of the church inside is 61 ft.,

and the width 33 ft. The transept is 32 ft. long and 18 ft. wide. The cost of the building was about £2,700. Mr. G. Gilbert Scott, F.R.I.B.A., was the architect. The contractors were Messrs. Nichols Bros., of Oakham. The reredos was made and carved by Mr. G. Ratcliff, the colouring and gilding having been carried out by Mr. G. Tosi, of London, S.W. The rood and reliquary case were made in the Tyrol and were decorated by Mr. Tosi. The marble work was executed by Messrs. Farmer and Brindley, of Westminster Bridge Road. A plan of the building is given on page 221.

Hall of Philosophy, New York University.

This is not equal to some of the University buildings in the United States, such as the work at Harvard by Messrs. McKim, Mead, and White, but it is nevertheless an example of modern American architecture which reaches a good standard. The porch gives a feeling of bigness to the design, though we hardly feel that the excessively plain fenestration exactly harmonises with it. The building is one, however, which is likely to gain very much in effect after a lapse of time and weathering. At present the newness of the walling is somewhat distracting.

Monument in the Abbey Church of Solesmes.

"The Entombment of Christ" in the Abbey Church of Solesmes is a most beautiful example of French Gothic work dating from the last years of the fifteenth century. Eight figures compose the group around the tomb. The shroud upon which the body of Christ is laid is held on one side by Nicodemus, wearing a turban and flowing robe, and on the other by Joseph of Arimathea, garbed in the costume of a seigneur of the time of Louis XI. (!). In the centre is the faltering Virgin, sustained by St. John, and on either side are holy women and a disciple holding a vase of perfume. Beside the tomb at the front is a figure of Mary Magdalene in an attitude of sad meditation, while flanking the opening are two guardian soldiers. The names of the men who wrought this monument cannot be determined precisely, but successive attributions have given the honour to Italian craftsmen, to Germain Pilon, to Ligier-Richier, and to Michel Colombe.

Cornice of the Palazzo Riccardi, Florence.

The Palazzo Riccardi is one of the early Renaissance palaces in Florence. It presents bold façades, comprising a triple scheme of fenestration, without columns and pilasters, and being crowned by a very heavy cornice, of which a detail is shown on the plate. The building was erected about 1430, but the cornice is attributed to Buontalenti (died 1608).

Racecourse Stand, Cheltenham.

The new racecourse stand at Cheltenham is an example of reinforced concrete construction, to which an architectural scheme has been applied. It is 90 ft. in length and 44 ft. in width, and the top tier is so arranged that spectators can obtain a view of the racing from back and front. At first-floor level is a restaurant with a barrel ceiling, and windows opening on to the balcony. Messrs. Chatters and Smithson, of Cheltenham, were the architects. The structural work was carried out by Messrs. William Moss and Sons, Limited, of Loughborough, the details of the reinforced concrete having been prepared by Mr. H. M. de Coleville, A.R.I.B.A.

Steelwork Details of New Building for W. H. Smith and Son.

This is a very interesting and useful sheet, showing, for the most part, details of the roof over the machinery hall. Mr. C. Stanley Peach, F.R.I.B.A., is the architect.

ARCHITECTS AND INCOME TAX.

A CORRESPONDENCE which concerns architects very intimately has taken place between the R.I.B.A. and the Government in reference to the assessment of Income Tax.

The following is the letter addressed to the Inland Revenue Office, which was referred to by the President in his opening address, published in our issue for last week:—

August 30, 1915.

To the Chairman of the Board of Inland Revenue,—

SIR,—A number of members of the Royal Institute of British Architects have called my attention to the very great difficulty which they will have in paying their Income Tax during the war if it is based on the three years' average system.

A very large number of architects who were making good or moderate incomes before the war have practically earned nothing within the last twelve months, and would have been better off if they had closed their offices to save office expenses, yet they will be called upon this year to pay a largely increased Income Tax based upon the amount they were earning before the war.

In the case of men without private means or accumulated savings it will be absolutely impossible to pay on this basis. It is strongly urged by many of them that for the duration of the war the system should be changed and that professional men should only be required to pay on what they have actually earned during the previous twelve months.

I shall be very glad if you can kindly consider the possibility of adopting this suggestion.—I have the honour to be, Sir, your obedient servant,

IAN MACALISTER, Secretary R.I.B.A.

The following letter, to which the President of the Institute was one of the signatories, has been addressed from the Institution of Civil Engineers to the Chancellor of the Exchequer:—

September 17, 1915.

SIR,—We, the undersigned, desire on behalf of the professional members of the societies over which we preside to draw your attention very earnestly to the serious position in which a large number of the professional classes, and many others who depend upon them for employment, will be placed if the Income Tax should under existing circumstances be assessed upon an average of three years' profits.

All are willing to bear their share of whatever requisitions in the way of Income Tax upon their earnings the Government may find it necessary to impose; but with regard to professional work, as distinct from manufacturing and commercial work, we feel that it would not be equitable to assess the earnings this year upon the three years' basis, on account of the extraordinary interference brought about by the war with professional business.

The occupation of the professional members of our societies has been seriously affected, and in many cases has ceased altogether, owing to the war and the restriction of expenditure which the Government have necessarily had to enforce. In anticipation, however, of a future resumption of business, and for the sake of old employees who are unsuited for other work, many professional men are at considerable loss keeping their offices open, and such employees as are referred to would suffer severely if those offices were closed altogether.

We accordingly venture to request that our representations on this subject may be taken into consideration; and that, in accordance with the principle adopted in the Finance Act, 1914 (Session 2) the incomes of our professional members may for the purpose of the tax be assessed for the current year on the actual profits of the year, as there can be no question that they are seriously diminished by "circumstances attributable directly or indirectly to the present war."

We have the honour to be, Sir, etc., etc.

The Treasury replied:—

October 11, 1915.

DEAR SIR,—With further reference to your letter of the 17th ult. in regard to the assessment to Income Tax of professional men, I am desired by the Chancellor of the Exchequer to point out that, prior to the present Budget, the exceptional circumstances of the war had already been recognised by the provisions of Section 13 (1) of the Finance Act, 1914, Session 2, applied to the year 1915-16 by Section 20 of the Finance Act, 1915. These provisions have the effect of bringing the bad year into the average four times instead of three or, in other words, of definitely relieving from charge to Income Tax part of the profits of a better pre-war year.

In the recent Budget it is further proposed that, where the actual income of 1915-16 falls short by more than 10 per cent. of the income on which tax has been paid, additional relief shall be given. The nature of this relief will be apparent from the following extract taken from the Chancellor of the Exchequer's Financial Statement:

"Relief is also proposed from the additional Income Tax in certain cases. The whole of the additional duty will be repayable in the event of any individual proving that his actual income from all sources for the year is less by one-fifth than the income on which he has paid taxes. That is a short statement of the change. I will amplify it by saying that it is an endeavour to redress the hardship upon the individual who, this year having a very small income, is nevertheless assessed on the average of the three preceding years when he had a very large income, and finds that he is called upon to pay 3s. 6d. in the pound Income Tax in respect of an income which it is true he once enjoyed, but which he now no longer possesses. It is proposed, where his actual income is less by one-fifth, that he shall be relieved of the whole of the 40 per cent. increase, and that where the deficiency does not amount to one-fifth but is more than 10 per cent., repayment of a proportionate part of the additional duty will be allowed."

It will be observed that this proposal is specifically directed to the relief of cases such as those to which reference was made in the letter under reply.—Yours faithfully,

(Sgd.) H. P. HAMILTON.

The President recurs to the subject in the following letter:—

October 25, 1915.

To the Rt. Hon. R. McKenna, P.C., M.P., Chancellor of the Exchequer.

SIR,—On behalf of the Council of the Royal Institute of British Architects I have to thank you for your letter of October 11 in reply to the joint communication which was sent to you on September 17 by the Presidents of several professional societies on the subject of the payment of Income Tax during the war.

My Council fully appreciate the action which have been made by the Finance Bill to meet the difficult case of the professional man whose income has greatly diminished as a result of the war. Doubtless the concession which you describe will materially assist the architect whose income has been halved by the war. But it is so that these concessions still fail to meet the case of the architect whose practice has absolutely stopped during the last twelve months. Such cases are painful and many of them have already been brought to the notice of my Council. Men who by their skill and industry have been earning good incomes two and three years ago now find themselves at the end of their resources and with no prospect of recovery until the end of the war, yet they are required to pay a considerable amount of Income Tax for a period during which they have earned nothing. My Council believe that it is the deliberate policy of the Exchequer that such men should be forced to sell even their furniture and personal possessions and reduce themselves to destitution in order to meet the demands of the Income Tax.

It is to be remembered that the position in which these men find themselves is not an automatic result of economic conditions arising from the war. It is in many, if not all, cases the direct action of the Government itself. The municipalities have been prohibited or discouraged from continuing initiating building operations. The War Savings Committee have appealed with authority to the public to build houses while the war continues. Doubtless both these measures are for in the highest interests of the community, but since they automatically produce the greatest distress in the professional class which lives by building operations—submitted that it is the duty of the Government which has been forced to deprive the architect of his living to take such steps as may be necessary to save him from the demand for a heavy Income Tax payment in a year during which he has earned nothing and has had the greatest difficulty in keeping his family alive with a roof over their heads.—I have the honour to be Sir, your obedient servant.

ERNEST NEWTON, President R.I.B.A.

A point requiring rectification in Clause 35 (c) of the Finance Bill now before Parliament is called attention to in the following letter:—

October 25, 1915.

To the Rt. Hon. R. McKenna, P.C., Chancellor of the Exchequer.

SIR,—The Council of the Royal Institute of British Architects have had attention called to an apparent amendment in the "Finance Bill, 1915," which injuriously affects the architectural profession.

It appears that under Clause 35 of the Bill it is intended that members of skilled professions should be exempt from payment of the excess war tax. The Clause specifically excludes "any profession the profits of which are dependent mainly on the personal exertions of the person by whom the profession is carried on and in which no expenditure is required or only a comparatively small amount."

These words apply with the utmost precision to the profession of an architect who is, therefore, clearly entitled to

The Clause, however, goes on to 'but including the business of any taking commissions in respect of transactions or services rendered,

s feared that, owing to the fact that acts generally receive their professional fees in the form of a percentage on the cost of the buildings designed, the words last quoted may have the effect of depriving them of the position granted to them in the earlier of the Clause.

Council venture to express the hope before the Bill is passed you will be able to see your way to make such verbal amendments in this clause as will secure to the architectural profession the benefits of position under Clause 35 (c), to which they are as clearly entitled as the members of any other skilled profession.—I have the honour to be, Sir, your obedient servant,
J. MACALISTER, Secretary R.I.B.A.

OBITUARY.

Mr. W. Galsworthy Davie.
Any readers will learn with regret of the death of Mr. Galsworthy Davie, of Sheringham, who was a member of the R.I.B.A. "Journal":—Mr. Shuffrey gives the following particulars in the R.I.B.A. "Journal":—Mr. Davie was a man, he began his architectural career in the office of Mr. Lauder, of Sheringham, at a time when the Gothic Revival was at its height; and whilst there, in response to an advertisement, he applied for and procured a situation as assis-

tant to William Butterfield, in Adam Street, Adelphi, where he stayed for several years, becoming Mr. Butterfield's right-hand man, and receiving from him an offer of a partnership, which, however, never matured. In 1871 he won the Royal Academy gold medal and travelling studentship, and the same year the Soane Medallion, and as the outcome of this success he spent some months in France sketching and measuring; a record of the tour being given in "Architectural Studies in France," a large folio volume, published in 1877. This work reveals the somewhat narrow outlook of a student of that time in a Gothic office. After leaving Butterfield's, Mr. Davie commenced to practise, but his name is best known by a series of books published by B. T. Batsford. The first of these, brought out in 1900, illustrated cottages and farm houses in Kent and Sussex by photographs selected and taken by him, and with descriptive notes and sketches by Mr. E. Guy Dawber. This was followed in 1903 by "Old English Doorways," with notes by Mr. Henry Tanner, jun., succeeded by "Old Cottages and Farm Houses in the Cotswold District" in 1905, in which Mr. Dawber again collaborated, and another volume on Surrey by Mr. Curtis Green, with plates from photographs by Mr. Davie. Many of the large plates in "Tudor Architecture" by Messrs. Garner and Stratton were also taken by him, as also the greater part of those illustrating Mr. Shuffrey's book on "The English Fireplace."

NEW COLD STORES, MANCHESTER.

An extension of the Manchester Corporation Cold Stores, underneath Smithfield Market, has just been formally opened. The extension consists of two new rooms, providing about 23,750 cubic feet of additional storage room, bringing the total capacity of the cold stores to more than 100,000 cub. ft., and there is space available for the construction of another large chamber at a later date. The method of insulation at the two new rooms and the brine pipes which cool the rooms are a new feature in the cold stores controlled by the Manchester Corporation. The insulation—which is regarded as the most efficient of its kind—consists of cork board or slabs made from granulated cork subjected during its manufacture to very great pressure. In the process of manufacture the slabs are passed through "ovens" at a high temperature in order to absorb everything of an organic nature from the material, thus reducing its absorbent properties and preventing the possibility of the cork used for insulating purposes being affected by damp, dry rot, etc. At the Elm Street Cold Stores, which were opened in 1895, silicate of cotton and charcoal is used for insulating purposes, while in the rooms constructed at the Smithfield Cold Stores, prior to this year, granulated cork in cavity walls forms the insulation. A substantial improvement has now been effected in the various methods of insulation.

At the Smithfield Cold Stores five of the rooms are fitted with both brine pipes and air circulation ducts, six others are fitted with air circulation ducts only, and two others are fitted with brine pipes only. Thus the stores are thoroughly equipped for maintaining all classes of perishable produce under the most suitable conditions and at proper temperatures. For the storage of poultry, rabbits, etc., temperatures as low as 10 deg. Fahr. can be maintained, while any temperature between this point and mere cooling or "chilling" temperatures (say 34 deg. to 36 deg. Fahr.) can be provided and regulated in accordance with requirements.

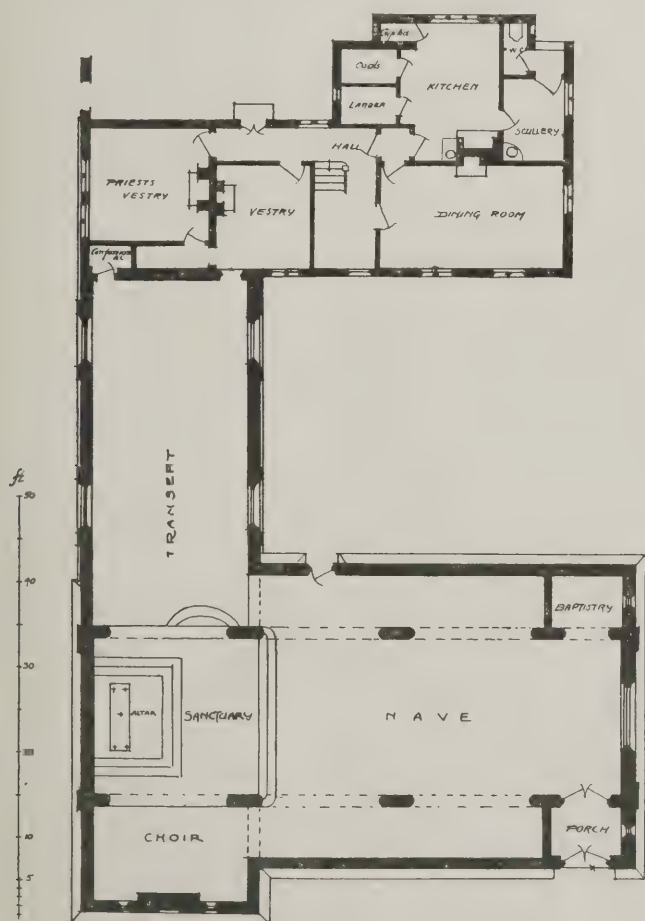
War Service Items.

A special company for training candidates for commissions in the Royal Engineers and other special branches of the service has been formed by Colonel W. Shirley, of the 28th Battalion, the London Regiment (Artists' Rifles), O.T.C. All applicants filling in forms and willing to receive preliminary training in this corps should mark their forms "Will undergo training course." During training, pay will be at Army rates for privates, with separation allowances on the usual scale.

Lieut. Laurence A. Dircks, 18th London Regiment, son of Mr. Rudolf Dircks, the R.I.B.A. Librarian, has been wounded a second time, severely, but is now progressing favourably in a hospital in London.

Mr. Edward Warren, F.R.I.B.A., is serving as a lieutenant in the Reserve of the French Red Cross at the Hôpital d'Arc-en-Barrois, in the Argonne district.

Mr. Stanley Waghorn, A.R.I.B.A., writes to say that as he is now on active service with the R.N.V.R., and cannot therefore attend to business letters, all communications should be sent to Mr. Leonard V. Hunt, F.R.I.B.A., 8, King William Street, Charing Cross, W.C., who is looking after the practice during Mr. Waghorn's absence.



CATHOLIC CHURCH AND PRESBYTERY, SHERINGHAM.

G. GILBERT SCOTT, F.R.I.B.A., ARCHITECT.

(For particulars see page 219.)

SOCIETIES AND INSTITUTIONS.

Emergency Military Hospitals.

At the Royal Society of Medicine, London, W., on Wednesday last, November 10, Mr. A. Saxon Snell, F.R.I.B.A., F.R.San.I., delivered a Chadwick lecture on "Military Emergency Hospital Construction." He said that, to meet the emergency of War, the War Office has always reckoned upon making use of spare accommodation in voluntary and public hospitals and infirmaries, and, of course, in its own service hospitals. In addition to these, arrangements have been made for requisitioning a large number of public buildings, schools, etc., for conversion as temporary hospitals. Other countries have made similar arrangements, and it is quite in accord with their policy of thoroughness that the Germans have, in many of their public schools, made special arrangements for converting them into hospitals. In addition to the conversion of existing buildings, the War Office has also contemplated the erection of temporary emergency hospitals, for which purpose detailed plans have long since been prepared; such buildings could be erected at short notice very quickly and at small cost.

Continuing, Mr. Snell said: The scale of the present War is so large that many civil architects have been called in to assist the War Office in carrying out temporary hospital schemes. It was inevitable, however, that many of the plans show considerable variation from the War Office model, both as regards planning and construction; although, of course, in every case such plans had to be submitted to and approved by the War Office. The variation in planning is instructive and interesting.

One of the first of these hospitals was the First Eastern Hospital at Cambridge, which is remarkable for being designed upon the open-air principle. It represents an act of faith and courage on the part of those who initiated it, amongst whom may be mentioned Professor (now Colonel) G. Sims Woodhead, and the Commanding Officer of the district. It was designed and carried out by Mr. Charles Skipper, of Cambridge.

Open-air wards for use both in winter and summer are by no means new in this country. For instance, Dr. Philip Boobbyer, medical officer of health at Nottingham, has had several in his district for a number of years. In these every kind of disease has been treated (not excluding pneumonia) during winter and summer.

The value of roughly improvised buildings and sheds, which are practically open-air, is referred to by Miss Nightingale, Dr. Brocklesby, Sir John Pringle, and, as far back as 1758, by Dr. Guv. The nucleus of these temporary hospitals is generally an existing hospital or a house, the permanent buildings of which are of considerable value as administrative offices or staff quarters. Methods of construction vary. The War Office model plans provide for a framing of timber, lined on the inside with plaster slabs, and on the outside with corrugated iron; roofs are also finished with corrugated iron. Timber framing, lined inside and out with asbestos sheets, is another method of construction, and these buildings are more slightly and no less fire-resisting. Ruberoid is used on the roofs. The flooring is of tongued boards and wood joists. At Leicester the walls are of brick and the floors of cement. At Shorncliffe Mr. White has covered his floors with linoleum, than which there is no more satisfactory ward floor.

Heating in closed wards is generally by means of steam pipes and radiators. At Shorncliffe anthracite stoves are used. In open-air wards no heating whatever is provided; nevertheless a few open fires are desirable, and in the later buildings at Leicester Mr. Perkins Pick has provided one at the end of each ward in a partly enclosed day-room. They are appreciated for the appearance of comfort, and they provide also for the nurses some means of warming their hands previous to changing dressings, etc. Electric lighting is general throughout. In these buildings it is not usual to observe any meticulous care in the rounding of internal angles and in the avoidance of dust ledges. Even the sinks and lavatories are generally supported on rough wood frames. The buildings are, of course, meant to be temporary, built quickly, and very small cost, and these matters are incompatible with refinement in detail. Yet these refinements cannot safely, and are not, ignored for isolation hospitals and in operating theatres. One matter—and it can scarcely be called a refinement—is rather generally ignored, i.e., a layer of concrete over the whole surface of the ground of the building. It may be of less importance if the building is raised a few feet above the ground, so as to provide a clear sweep for the air; otherwise, especially in enclosed wards, ground air is bound to find its way upwards, and the quality of ground air is variable and not to be ignored with impunity.

The cost of these buildings varies greatly. The War Office model plan is estimated between £60 and £70 per bed, but the Cambridge, Canadian, and Glasgow hospitals cost about £25 per bed. At Leicester the ward blocks only were estimated at the cost of £15 10s. per bed.

The next Chadwick public lecture, on "Some Conclusions on Housing our Workers," by Mr. W. E. Riley, F.R.I.B.A., will be given at the Royal Sanitary Institute, 90, Buckingham Palace Road, S.W., to-day, Wednesday, November 17, at 8.15 p.m.

Further particulars of Chadwick Lectures may be obtained from the secretary, at the offices of the Chadwick Trust, 8, Dartmouth Street, Westminster.

The Architectural Association and the War.

The Architectural Association held its sixty-eighth annual general meeting on Monday, November 8, at 18, Tufton Street, Westminster, Mr. H. Austen Hall, F.R.I.B.A. (president) in the chair. Mr. F. Mungia and Mr. W. B. Anderson were elected new members, and the re-statement of Mr. W. J. Halls was announced.

The President stated that, following the action taken by the Institute, the Association had decided not to hold any more meetings this session beyond those required for the transaction of business. He pointed out that the activities of the Association since the outbreak of the war had been, through force of circumstances, military rather than architectural. There were, he said, over four hundred members serving in the Army at the present time, and through the A.A. War Service Bureau about 1,000 men had been recruited for the various branches of the Army. The Association had recently formed a Voluntary Aid Detachment for Men, which was urgently required in the Westminster Division, and its members were now serving as

voluntary orderlies in some of the hospitals in the district. The Active Service Committee, which, since October, had been sending necessities and comforts to members of the architectural and surveying professions serving with the forces, had carried out a vast amount of work. He hoped that members of the profession would give them their support by donations either in kind or money.

Dr. A. E. Shipley, F.R.S., then read a paper on "The Military Hospital at Shorncliffe." The paper dealt largely with the general organising work and administration of the hospital. Mr. Edwin Hall proposed a vote of thanks, which was seconded by Dr. Brydone and supported by Mr. William A. Pite.

Royal Society of Arts.

Among the papers arranged for the current session of the Royal Society of Arts is one on "Constantinople, Ancient and Modern," which will be given by Edwin Pears on November 24, at 8 p.m. A lecture on "Belgian Architecture," by M. Victor Horta, director of the Royal Academy of Fine Arts at Brussels, will be delivered after Christmas, and Herbert West, A.R.I.B.A., will give three Fothergill lectures on "Future Architecture" on February 7, 14, and 21, 1916.

Architecture after the War.

At the opening meeting of the tenth session of the Architectural Association of Ireland, held in Dublin on November 4, Mr. H. G. Leask, the elected president, delivered an inaugural address on "Architecture after the War." After referring to the fact that one of their members were now serving in the Forces—a very creditable number of such a small roll of membership, he understood reached 110—Mr. Leask went on to say that after the War the economy and heavy taxation were bound to have their effect upon architectural building, but although progress might be slow it must not stop. The practice of national and individual economy would be ended beneficial in its effect, tending to the lessening of waste in public and private undertakings and developing other schemes of general utility. They would progress less in practice, and in the papers, of elaborate costly country town mansions, and more schemes for the provision of modest homes, and the provision of labour-saving appliances connected with the object of economising energy and expense. It was to be hoped the effect of national and individual economy upon architecture might be one of restraint and sobriety in design, and reliance upon the bedrock principle of good proportion.

The Advancement of Architecture.

This was the theme of Mr. G. S. Nicol's presidential address to the Birmingham Architectural Association last week. The disturbance of war, he said, could never be more than a temporary matter compared with the permanent claims of architecture, and the success of our Army and Navy would once leave us free to devote our energies to the development of the arts of peace. That opportunity occurred it was of utmost importance they should have a more definite idea of the course to be

they had had in the past. Con-
 angling from one phase of design
 er would lead to nowhere. Re-
 ling the younger members of the
 a to support the Birmingham
 School of Architecture, the
 said it was from such a source
 ounding of a traditional style of
 might be expected. The finest
 of the past were invariably the
 working for generations in the
 of art on similar lines, and in-
 tended knowledge of the various
 was quite possible by the founda-
 definite schools of design to re-
 this principle. It was only by
 such a traditional style and the
 ion of the complementary arts of
 and painting that the finest
 ould be attained.

Bristol Society of Architects.

Bristol Society of Architects' open-
 ing of the session 1915-1916 took
 place on October 25, when the president,
 am C. Awdry, F.R.I.B.A., held a
 ione. A collection of drawings
 by members of the Society in
 architectural competitions was

Birmingham and Derby Society of Architects.

gh twenty-four members of the
 am and Derby Architectural
 ere now serving the colours, there
 ood attendance at the opening
 of the winter session last week.
 ident, Mr. Harry Gill, M.S.A.,
 ed the members to tea, and, by
 esy of the City Library Com-
 d the competitors, the premiated
 of the branch libraries were on
 was reported that although the
 the Society had protested against
 tions at Southwell Minster this
 gone on and was now nearing
 n.

LEGAL.

Employers' Agreement: Important Point in Workmen's Compensation Act.

v. Executors of Richard Guest.
 Court of Appeal. Before the Master
 of the Rolls and Lords Justices Bankes and
 Collins.

Important question with regard to the
 of an agreement under the
 Workmen's Compensation Act was raised
 on appeal by John Madden, of Cam-
 street, Brierfield.

He appealed from the refusal of the
 County Court judge to register the
 of an agreement between him
 and the executors of Richard Guest, who
 was in business as plasterers' contrac-
 tors, Calfax Road, Brierfield.

Mr. Madden, for the appealing work-
 man, said his client was a labourer who
 fell from a ladder in December, 1914, while
 at the new Arcade, Nelson. As a
 thigh was fractured and he had
 been admitted to the Union Infirmary at
 Nelson.

Compensation was paid by the
 executors at the rate of 12s. 11½d. a
 week in March, 1915, the man's solici-
 tor gave notice that they intended to
 have a memorandum of agree-
 ment signed so that application the employers
 would answer. At the trial the work-
 man contended that there was an agree-
 ment for compensation under the Act
 from the date of the accident, or until the same was
 finished, increased, or redeemed
 by a lump sum. The employers contended

that the only agreement was to pay com-
 pensation during total incapacity. The
 County Court judge held that he ought not
 to enter any agreement at all, and if there
 was an agreement it would be in the terms
 set forward by the employers. In this
 counsel submitted that the judge was
 wrong.

Mr. Harold Morris, for the employers,
 submitted that the judgment of the County
 Court judge was right.

The Master of the Rolls, in giving judg-
 ment, said he thought the County Court
 judge was right in finding that no agree-
 ment had been entered into between the
 employer and the workman. The judge
 had found that as a fact, and the ques-
 tion was whether there had been misdirec-
 tion. He thought there was no misdirec-
 tion which would justify them in going
 behind the finding of the County Court
 judge, and in fact he thought there never
 was any agreement which it was within
 the jurisdiction of the County Court judge
 to record.

The Lords Justices concurred.

The appeal was therefore dismissed.

Quantity Surveyor's Claim against Building Owners.

*Davis v. Wm. H. Muller and Co.
 (London), Ltd.*

November 8. King's Bench Division. Before Mr.
 Justice Sankey.

This was an action by Mr. Wm. Ed.
 Davis, a quantity surveyor, of John Street,
 Adelphi, London, W.C., against Messrs.
 Wm. H. Muller and Co. (London), Ltd.,
 of Baltic House, Leadenhall Street, E.C.,
 to recover the sum of £382 7s. for work
 done as quantity surveyor.

Mr. Hume Williams, K.C., and Mr.
 D. M. Hogg (instructed by Messrs. Welch
 and Co.) appeared for the plaintiff and Mr.
 H. F. Dickens, K.C., and Mr. W. A.
 Jowitt (instructed by Messrs. Trinder,
 Capron, and Co.) represented the
 defendants.

Mr. Hume Williams said this was an
 action by a quantity surveyor against the
 building owners to recover £382 7s., being
 the amount of his fees earned. The work
 to be done was very considerable, and con-
 sisted of taking down some warehouses,
 preparing foundations, and erecting new
 ones. The work had been partly done.
 The old warehouses were taken down and
 the foundations prepared for new ones.
 But on the tenders being sent in for the
 erection of the new warehouses, etc., the
 price came out higher than everybody had
 anticipated, owing to the price of materi-
 als having substantially risen. The result
 was that the defendants as building owners
 refused to go on with the work. What
 they did was to take it out of the architect's
 and surveyor's hands and do the work
 through a firm of engineers. His evidence
 would show that the architect's plans were
 largely used in the new buildings. The
 point for the decision of the Court was
 whether or not upon the facts of this case
 the architect had authority, from the
 defendants, either express or implied, to
 employ the plaintiff. It was partly a ques-
 tion of fact and partly a question of law.
 The plaintiff was a distinguished member
 of his profession and a member of the
 Council of the Institute, and defendants
 were the owners of the Batavia Steamship
 Company, a Dutch line of steamers,
 having a custom house and wool quays at
 Lower Thames Street. In January, 1912,
 they were minded to pull down the existing
 warehouse and erect new premises. They
 consulted Mr. John Stanley Towse, an
 architect, of New Square, Lincoln's Inn,
 and Newcomen Street, London Bridge,

and asked for a preliminary estimate for
 the cost of the work. On February 8 Mr.
 Towse called upon Mr. Chambers, the
 managing director of the defendant com-
 pany, and gave him sketch plans and a
 rough idea of the estimate.

At this point a consultation took place
 between the parties, with the result that a
 consent judgment was entered for the
 plaintiff for £250 with costs.

PROJECTED NEW WORKS.

One Hundred New Houses for Letchworth.

Owing to special war requirements, the
 Treasury have decided to grant the appli-
 cation for a loan for the erection of 100
 houses at Letchworth to accommodate the
 big influx of Belgian workers.

Houses for Munition Workers.

The Coventry City Council have decided
 to build 600 houses for munition workers
 on land near Stoke Heath. The cost is
 estimated at from £150,000 to £200,000,
 and the Ministry of Munitions will pay the
 Corporation about 20 per cent. on what
 such a scheme would have cost at pre-War
 prices. Work is expected to be begun
 almost immediately. At Dudley 300
 houses are to be built, subject to a Govern-
 ment grant-in-aid being obtained. There
 will, it is hoped, be a free grant of 25 per
 cent. of the cost of the buildings and 10
 per cent. of the cost of the necessary roads
 and sewers.

Huge New Dye Works at Huddersfield.

British Dyes, Ltd., have decided to erect
 their principal works at Huddersfield. The
 directors have made a start with the
 scheme for laying down plant and erecting
 buildings on a large scale, and have made
 provisions for further developments. This
 building up of a national industry will in-
 volve a very large expenditure, and will
 occupy considerable time. It would not be
 surprising if ten years were to pass before
 the ideas at present in mind were finally
 carried out. While the growth of the con-
 cern will be gradual it will be continuous,
 and the number of people to be perma-
 nently employed at the works will steadily
 increase with the construction of the plant.

New Hospital Buildings.

The Warrington Council has approved
 plans for a small-pox hospital to be built at
 a cost of £1,800.

The Berwickshire County Council pro-
 pose to provide at Ayton a small-pox hos-
 pital for the East District.

The Bethnal Green Board of Guardians
 are about to erect a phthisical shelter at
 the Military Hospital, Cambridge Heath,
 N.E.

The Edmonton Guardians propose to
 build two temporary wards at the Edmon-
 ton Military Hospital. Mr. J. C. S.
 Mummery, 13, Fitzroy Square, W., is the
 architect.

The Maghull Epileptic Homes Com-
 mittee has decided to make a further addi-
 tion to the colony at Maghull. The new
 building is estimated to cost £15,000.

New Buildings in Scotland.

The Scottish Co-operative Wholesale
 Society, Ltd., propose to erect large new
 buildings in Morrison Street, Glasgow.

The Ayr Town Council have agreed to
 make a grant of £500 to the Ayr Carnegie
 Library towards the building of a
 children's reading-room and library.

The Bo'ness Town Council have decided
 to ask sanction for a loan of £7,000 from

the Secretary for Scotland to carry out extensions to their electrical works.

The Paisley Town Council have agreed to apply for a further loan of £3,000 to the Secretary for Scotland for the extension of their electrical works.

The Dunfermline Town Council have decided to ask the Treasury for permission to spend £5,000 on laying a new water main to Rosyth.

A new picture house is to be erected to the rear of 475, Union Street, Aberdeen, for Mr. James F. Donald. Mr. George Watt, of Aberdeen, is the architect.

The Clyde Trust have approved of a plan for the extension of their timber yard at Shieldhall, Glasgow, and are to enclose with a fence $4\frac{3}{4}$ additional acres of ground. The estimated cost of the work is £1,100.

The Scottish Wholesale Co-operative Society, Ltd., are to carry out alterations and additions to premises at North Esplanade West, Aberdeen. Mr. William Mercer, of Glasgow, is the architect.

The Building Committee of Dundee Town Council have now entered into contracts totalling about £56,000 for the erection of the New City Hall, the gift of Sir James K. Caird, Bart. The latest contract fixed is that for the mason work, which has been secured by Messrs. Neil McLeod and Sons, of Edinburgh, at £26,630. Previous contracts were for the reinforced-concrete piling and the steelwork.

A large housing scheme is to be carried out at Mossend by the County Council of Lanark. They are to erect between 150 and 200 houses at an estimated cost of £35,000. The houses will be cottages containing one room, two rooms, and three rooms respectively, with kitchen, scullery, and bathroom each and let at a rental of £15, £17 10s., and £18 respectively. These rentals are expected to make the scheme self-supporting. It is expected that six hundred workmen will shortly be brought to the district, and the Minister of Munitions is granting £30 per house, or £4,400 towards the total outlay, on condition that he will have first call on the houses for munition workers.

GOVERNMENT CERTIFICATION OF CEMENT INTENDED FOR EXPORT.

A laboratory for testing cement has now been added to the establishment of the Scientific and Technical Research Department of the Imperial Institute. In certain countries, such as the Argentine, the Government has adopted an official specification for cement to which all cement intended for use in the construction of public works must conform. The Argentine Government also requires the certification of such cement by a laboratory recognised for that purpose by the Government of the exporting country.

His Majesty's Government has now recognised for this purpose the cement-testing laboratory of the Imperial Institute, at which analyses and tests will in future be conducted for British-made cement for contractors, engineers, manufacturers, and others desiring to export cement to the Argentine and other countries in which a Government certificate is required. Firms requiring such assistance are requested to communicate with the Director of the Imperial Institute, South Kensington, London, S.W., who will supply information as to the conditions under which certificates are issued.

NEWS ITEMS.

Memorial Tablets in Westminster Abbey.

Memorial tablets to Sir Joseph Hooker, Lord Lister, and Dr. Alfred Russel Wallace have been unveiled in the north aisle of Westminster Abbey, in what is known as the "Science Corner."

The Nelson Room, Great Yarmouth.

A correspondent desires to refer to measured drawings of the historic Nelson Room at Great Yarmouth. No such drawings have appeared in our own Journal. Perhaps some reader can give a reference.

Concrete Block Production.

In the article on this subject in last week's issue on page 213 the address of Messrs. Winget, Ltd., was given as Star Buildings, Newcastle-on-Tyne. The firm, however, have removed their head office to 25, Victoria Street, Westminster, S.W.

New Fire Station at Liverpool.

A new fire station has been built at Wallasey, Liverpool, from designs by the Borough Surveyor, Mr. Travers. The new premises, which have cost £5,500, stand at the corner of Manor Road and Rake Lane.

The Memorial to Mrs. Eddy.

The clerk to the Third Church of Christ Scientist, London, writes to say that the memorial to Mrs. Eddy, illustrated in our issue for last week is being erected at Boston, not New York. We took our information from the "Christian Science Monitor."

The Revival of Artistic Lithography.

The Senefelder Club for the advancement of artistic lithography will hold an exhibition opening on November 13 at the Leicester Galleries, Leicester Square. Including as it does the leading exponents of lithography, the Senefelder Club is responsible for the great revival of interest in this fascinating branch of art. The forthcoming exhibition will include a number of new war subjects by Mr. Spencer Pryse and others.

British Columbian Timbers.

In connection with the efforts being made by the Government of British Columbia to secure wider markets for the forest products of the province, three pamphlets have just been issued dealing with (1) British Columbia timber, (2) British Columbia red cedar shingles, (3) Methods of finishing British Columbia wood. Copies of these pamphlets may be obtained free upon application to the Agent-General for British Columbia, Salisbury House, London, E.C.

Survey Relief Work in South Wales.

The first meeting of the Committee appointed at the South Wales Housing and Town Planning Conference held at Cardiff in July last to superintend a civic survey of South Wales and Monmouthshire was held at the City Hall, Cardiff on November 2. The survey is being organised for the benefit of architects and surveyors thrown out of employment owing to the War. The cost of the work will be defrayed by grants from the Prince of Wales's Fund, and no call will be made upon local authorities for their support. It was agreed to take the question of roads as among the matters requiring immediate attention, and also the provision of playing fields. It was also agreed to have maps prepared of the mining valleys in Glamorganshire, a

fringe of Breconshire, and also a part of Monmouthshire, showing the use of which the surface is put. Mr. Alderman, secretary of the National Housing Town Planning Council, said they reckon on the services of ten to fifteen unemployed professional men to carry out the survey in South Wales, and they will be paid at the rate of £2 per week. It is obvious that these surveys, when maturely the results from various districts are digested and co-ordinated, should be of great assistance for the study and advancement of town planning.

University Lectures on Heating and Ventilating Engineering.

Mr. A. H. Barker, B.Sc., Lecturer in Heating and Ventilating Engineering at the University College, will give a lecture "The Methods of Evaluation of Steam Co-Efficients in Heating Engineering" at the Physiology Theatre at University College, on Tuesday, November 17, at 7 p.m. This lecture will be open to the public without ticket, and is especially intended for engineers and others concerned in practical work in heating and ventilating.

Plumbing Contracts and the War.

A question which had arisen between Swansea Corporation and a plumbing contractor as to increased prices under conditions was brought up at a meeting of the Corporation Stores Committee. It was pointed out that since the War the Committee had agreed to a proposal that the firm should supply goods "at cost plus 10 per cent. for establishment charges." It was decided that the Borough Architect should order the goods which could get the best terms.

New Choir School in Westminster.

A new choir school has been built by the Dean and Chapter of Westminster on the west side of Dean's Yard at a cost of about £30,000. It occupies the site of modern buildings where minor clerics used to reside. The building is designed for thirty boys, as compared with twelve in the old school in Little Smith Street. The roof there is a covered playground 106 ft. long. Besides a schoolmaster's house, accommodation is provided for assistant masters, a matron, and domestic staff, and a residence for a canon is also included in the new buildings, which have been erected from designs of Mr. Arthur G. Wallace.

New Theatre at Shoreham.

A new theatre at Shoreham has been completed. It is close to the sea with a frontage of about 70 ft. to the Brighton Road. The building is of a frame construction filled in with fireproof walling, the roofs being covered with "Poiilite" tiles. The front elevation has been finished in sgraffito, with rusticated cornices. Owing to the exposed site it was necessary to give special attention to wind bracing in the steelwork, the over the stage (55 ft.) necessitating additional safeguards. The theatre will accommodate some 1,200 persons on a stage 50 ft. by 26 ft., with machinery capable of working the biggest productions. A spacious lounge and two restaurants are provided. The auditorium has been simply treated with barrel vaulting divided into three bays, with exposed plaster ribs, the walls being painted in warm buff and the woodwork treated in a green "Solignum." Messrs. C. Saunders and Son, of South Kensington, were the architects.

ELECTRICAL NOTES.

New Designs in China Covered Switches.

time has not yet come with us, and it is to be hoped it will, when the authorities will force us to sell all our old copper fittings and utensils, as the Germans have been to do. Nevertheless, there is a great demand for copper, the price of it is very high, so that any economy that can be effected will tend to help. With this object in view, Messrs. J. H. Tucker and Co., of Birmingham, suggest the desirability of using china covered switches instead of the conventional brass covers. The usual black and brass china covers are, of course, quite suitable for positions where aesthetics do not enter, but in other respects they are as good as the metal covers which they replace. In order to meet the demand, Messrs. J. H. Tucker and Co. are supplying their own Tumbler switches with porcelain covers in a variety of colours harmonising with the woodwork of the room they are to be fixed in. Light oak, dark oak, walnut and mahogany are perfectly matched, so that from a distance the switches blend with the scheme of decoration most effectively. The covers are slipped on, but are merely slipped over the fixture of the switch to which they are secured by a screw sleeve of metal.

Artistic Electric Light Fittings.

This is the title of a handsomely produced catalogue just issued by the Edison and Swan United Electric Light Co., Ltd., in which they are seen forth fully justify the name. In the fact that the makers of gas fittings have lately failed, not unsuccessfully, to imitate the graceful forms of electric light fittings, it cannot be denied that electric light has taken a long lead in the matter of artistic application, and its intrinsic property of producing no products of comparison.

Therefore it offers greater latitude in design in every direction, and more especially in the direction of indirect illumination. This system of lighting has become very popular of late, especially since the introduction of high efficiency lamps of great intrinsic brilliancy. Nevertheless, there is still a large demand, and by far the larger demand, for fittings of a conventional type, and also there exists a considerable revival in regard to old models. All these demands are amply catered for in the catalogue in question, but printed designs convey no idea of the effect, and therefore those who are interested in electric light should pay a visit to the Edison and Swan showrooms at 25, Queen Victoria Street, E.C. There the eye will be met with a truly remarkable selection of fittings of all kinds, and so that the real effect can always be appreciated.

Turning to the catalogue, for those who love the old styles there is plenty of choice—Sheraton, Flemish and Louis wall brackets—an inefficient but inimitable form of lighting for halls and rooms suitably decorated. Other fittings which call for comment are a useful variety of adjustable table and desk lamps, vase lamp stands, and the Edison Adjustable Pendant. This has a long rigid arm, which can be swung into any position within a circle of 4 ft. diameter, and is mechanically held there by means of spring clips, in which it is specially suitable for offices, workshops, hospitals and other situations where it is required to bring a strong light to bear on a particular position. A large portion of the catalogue is taken up with semi-indirect and indirect lighting fittings. The former consist of bowls of alabaster or other translucent materials, illuminated by the periphery by chains from a ceiling plate, and giving one or more lights. The latter are provided with white metal bowls, and are intended more particularly for use with Half-Watt lamps. The trade will appreciate the fact that the title-page can be removed from the catalogue and that carbon slips for customers are provided at the end.

Simplex Half-Watt Fittings.

Designs are continually being introduced in fittings suitable for Half-Watt lamps for use in shops, public buildings, and where the indirect system does not find favour. This is the case for those situations where arc lamps were formerly employed, and where a form of lantern is still in use. Messrs. Simplex Conduits, Ltd., of Charing Cross are placing on the market two new patterns of Half-Watt lamps for indoor and outdoor use respectively. While due attention has been given in these to appearance, the question of mechanical suitability has received special attention. In fittings for outside use, the enamelling is of good quality, and the ventilation is ample, and the fitting is waterproof. The special glass used in the more elaborate designs is the result of considerable experiment, and is designed to secure a full light and minimum glare. The company will be pleased to submit designs for special purposes and specifications, and have a large number of standard designs of fittings suitable for use with Half-Watt lamps.

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Advertisers are purchasing the circulation of a paper in buying space for their announcements, and we are able to announce that "The Weekly Nett Sale of The Architects' and Builders' Journal is larger than that of any other Architectural Journal."

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4 lines (about 28 words) 1s. 6d.; 3 insertions, 3s.

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THE ARCHITECTS' & BUILDERS' JOURNAL.

Wednesday, November 24, 1915.

Volume XLII. No. 1090.

No. 162.



PORPHYRY URN, SEPULCHRE OF ST. CONSTANCE.

(From Piranesi.)

THE ARCHITECTS' & BUILDERS' JOURNAL.

NOVEMBER 24, 1915.

TOTHILL STREET, WESTMINSTER.

VOLUME 42. No. 1090.

EDITORIAL.

BELGIUM, it is proposed, shall have a memorial city. It is to be built from international funds, and is to express the respect of the nations for the part played by Belgians in the war. It is a great idea, and the Belgians richly deserve some such tribute to their magnificent behaviour under great tribulations; but is it practicable, and would a memorial city be as impressive as some less diffuse monument—such as a noble hospital, for instance? It is said that the proposal for a memorial city has been approved by the Belgian Minister of Agriculture and Public Works, and is to be submitted to the Belgian King and Government. Although the sanguine spirit of the project is in itself admirable and heartening, decision upon it might well be postponed until we are in a better position to judge the extent of the more immediate needs of Belgium and the means of meeting them.

* * * * *

If the memorial city ever materialises, care must be taken that the Germans shall not supply the materials of construction. No sense of patriotism or feeling of shame would prevent their very keen enjoyment of the grim irony of the situation if they could succeed in undercutting or otherwise circumventing their racial antagonists in the matter of consignments for this city; for, in Germany, patriotism and commercialism are always in agreement. Let it never be forgotten that crude commercial instincts were, with the Germans, the leading motive for making war. With an unexcelled, if not unexampled, habit of completely concentrating his mind upon his objective, the German, while remarkably alert to any and every means of attaining the end in view, is absolutely unscrupulous in brushing aside every consideration that he deems to be untoward. Neither honour nor shame come into his calculations. He would cheerfully supply union-jacks (of very inferior calico, and with the cheap-dye stripes all wrong), or war-medals (of very inferior pewter) for the celebration of our victories over his hordes; and he would salve what he may be pleased to call his conscience by marking them "Britisch-made." These engaging proclivities of his must be in the future much more carefully watched, and much more strictly penalised, than they have been in the past, and greater vigilance must be directed against his inveterate habit of pirating British inventions and falsifying trade-marks. We know the German better now, and must be prepared to deal with him accordingly.

* * * * *

In eliminating sentiment from business, the German is certainly not peculiar, except in his scrupulous—or unscrupulous—thoroughness. Sentiment, as we have been very frankly forewarned by the authors of "The Rebuilding of Belgium," will not, when the war is over, shut out the Germans from the Belgian market. "Let it not be forgotten," our authors say, "that the principle which governs contracts in Belgium is that of com-

petitive tendering. Nearly always the lowest tender secures the work. It necessarily follows that the cost of materials and plant is a dominating factor in a contractor's success, and that the cost of the goods to be supplied by British firms must not exceed the standard set by the German firms. Unless British firms are prepared to compete with the Germans, then, in spite of all the sufferings endured, all the miseries caused, all the commercial and industrial ruin, and the moral indignities wrought upon Belgium by the armies of the Kaiser, German traders will again be preferred. At present the Belgians are firmly resolved to break off all commercial relations with the Germans. The execution of that decision commends itself as a means of preventing Germany from recovering her power. But that decision will rapidly give way unless interest and profit sustain it." These are indeed some weighty words of counsel, that we feel thoroughly justified in repeating them, although they have previously appeared in our own columns. In fact, we are half-disposed to think that they ought to be printed in bold type placed in a prominent position on every issue, because they represent a "cold-drawn" truth that every British trader must take to heart if he wishes to do his fair share towards enriching his country and in the same operation curbing the inordinate greed of Germany.

* * * * *

As to the matter of underselling, the Germans are at a decided advantage in their command of cheap and docile labour. It is not such good labour as ours, but it is much more tractable. Nor do they make "finish" a fetish: that is plainly evident in what, according to British standards, is the clumsy workmanship of their German guns, mines, torpedoes, aeroplanes, and other "objects of bigotry and virtue" now on exhibition at the Horse Guards' Parade. British workmen are disgusted with the clumsiness and general want of elegance common to all those objects, but the British hardi-bred German scorns all nicety as unprofitable as adding to cost without increasing efficiency. This is a point for British manufacturers to ponder. Do we attach too much importance to appearance? "To get a fine finish" is a commonplace of British specification and is usually appropriate to them; but, outside the domain of decorative treatment, there are innumerable objects on which labour is virtually wasted, to the enhancement of cost. British manufacturers have often told us, with fine scorn, when examining German-made goods, "We would not allow such work to leave our shops." One admires intensely their honest pride, but if they are to compete successfully against the Germans, it will be necessary to follow in some measure the German habit of discarding unremunerative labour.

* * * * *

In presenting a "copyright photograph," by Mr. Hector Murchison, of "St. Mary-le-Strand, as seen

King's College courtyard"—which, by the way, would appear to be about the worst possible position in which to see it—the "Challenge" says, "Many generations of students at King's College must have looked daily at Wren's beautiful spire as they left the college; yet to many of them Mr. Murchison's interpretation of it will come as a revelation of graceful simplicity." For us the more remarkable revelation is that it is Wren's spire. We were always under the impression—which is fortified by accepted tradition—that James Gibbs was the only true begetter of St. Mary-le-Strand. But just as all good jokes were at one time fathered on Sydney Smith, and all spindle-legged furniture on Chippendale, so all good churches in London are attributed to Wren. James Gibbs, having himself a pretty knack in towers and spires, might perhaps have relished the implied comment, since Wren was his revered master.

* * * * *

It would be pleasant to exculpate our contemporary the ground of a pardonable confusion—very common among Londoners—of St. Mary-le-Strand with Clement Danes, each, to the scandal of utilitarians, occupying an island site which obstructs traffic in the busy Strand. Unfortunately the turn will not serve. Gibbs happens to have been the author of both spires; for, as Miss Lena Milman says of Wren, in a rather pathetic passage in her life of him, in his old age seems to have retained his faculties for the most unimpaired, but there is surely an implied weariness in the fact that he suffered his pupil Gibbs to design the spire of St. Clement Danes, the church which he had built in 1682." She adds the graceful acknowledgment (grateful and comforting from so unhearted a biographer) that "Gibbs performed his so well that his spire seems as though it had been part of the original plan." It is certainly a much more sympathetic graft than Wren's towers on Westminster Abbey; which give the world assurance that it was no Goth.

* * * * *

A rather ludicrous mistake was made, by a daily paper that has more than common reason to pride itself on general accuracy, in announcing the appointment (mentioned in these columns last week) of Mr. H. J. Holloway as Director of Housing Construction in the Ministry of Munitions. "He was," says our temporary, "by an error described as a big whole-clothier and manufacturer. He is, of course, the managing director of the great building firm of Messrs. Way Bros., and for many years has taken an active part in public life." He has "clothed" many a building, however, and is doubtless well acquainted with the virtues of good four-coat work.

* * * * *

Our correspondent, Mr. A. T. Bradford, thinks that a lack of one of our contributors that "the art of the monumental mason is now in sorry trade hands" calls for reflection. He makes it, to this effect: "A very thing should be as interesting to the artist as to the National Gallery, and I fear that we architects and sculptors are to a great extent lame for the present conditions. Agreed the headstone is in sorry trade hands, but not because of the neglect of the capable mason who has stood by without attempting to do better matters. Now that our ordinary work is at a standstill we have surely a unique opportunity to consider this matter, and I would suggest that we do so on the following points: That the ordinary headstone is worthy of a good design and gives every opportunity for artistic ideas; that a good headstone need not be a more expensive one; that cheap marble generally used is cold, inartistic, and so common that it has become repulsive to the eye; that our own country possesses material

which might with advantage be considered." He proceeds: "Cannot we promote some scheme whereby the public eye might be opened to these facts? Your journal is doing something by occasional illustrations of old work, but more is required. I suggest: (1) That your present efforts be enlarged, not only to include old examples of what headstones should be, but new designs suitable to the present day; perhaps a competition could be arranged for headstones costing less than say £10. (The trouble would not be with the more expensive ones.) (2) That the Institute and similar bodies appeal to the general public, and this might be done through the journalist, perhaps through the cemetery authorities, and also through the clergy, all of whom would give sympathy to such a movement. Schools of art might also be used." Our correspondent reaches this conclusion: "Let the matter be considered as one of national artistic education, and I believe the result will soon be surprising."

* * * * *

We do not much like the idea of a competition for headstones. To engage in it would seem to require the detachment of the man who would "botanise upon his mother's grave." There is no denying, however, that headstones should be designed by artists. That is what our contributor meant when he complained of the art of the monumental mason being "in sorry trade hands." It is too often entrusted to a mere jobbing mason, who deepens the gloom that art should assuage. It is no mere figure of speech to say that his crude handiwork adds to the terrors of death, whereas real art would lend a grace and dignity to pathos, as it does in so many instances in the cemetery of Père Lachaise. "God's acre beautiful" should still be an inspiring motive, and no sculptor and no architect would hesitate to apply his art to so fine a purpose. Sepulchral monuments, from the days of Michael Angelo and Torrigiano downwards, have produced artistic work of the highest order; and many living architects, working sometimes alone and sometimes in collaboration with a sculptor, have made monuments that are not unworthy of these high traditions. Sometimes a third hand is seen—that of the expert letterer. Much of the lettering on headstones is abominable and contemptible. Baskerville found it so, and in studying the subject he initiated a reform which he afterwards carried into the domain of typography: he became, it will be remembered, one of England's most notable letter-founders. We trust that some at least of our correspondent's timely suggestions may fructify.

* * * * *

In a fickle climate like ours, it would be unsafe to prognosticate, from the recent frosts, a winter of greater severity than any that has been experienced for several years past. It is nevertheless well to be as far as possible prepared for such a contingency; and as this is a matter that greatly concerns builders, we are glad to see that an eminent company of reinforced-concrete specialists have promptly issued to contractors carrying out their system a circular letter containing valuable hints on procedure in frosty weather. It is, of course, quite possible, in cases of urgency, to carry on building work in the coldest weather, as they do in Canada, where, however, the condition is met by systematic arrangements that for our variable climate would be unnecessarily elaborate; but the precautions advised in the circular are quite simple. When frosty weather is anticipated, new work should be protected with empty cement-bags, and the false-work should be left in position "at least half again as long" as the normal period. This seasonable advice is amplified in the circular, and in an accompanying pamphlet giving "Instructions to Foremen." They should have been unnecessary; but it is always the obvious things that are the most likely to be overlooked.

HERE AND THERE.

TO resume my notes on Bath. There is the eighteenth-century architecture to look at a little more closely. From the paved space in front of the Grand Pump Room one can compare the old work with the new, Baldwin's front with Brydon's adjoining. The façade of the Grand Pump Room is not without faults; the purist will have occasion to condemn its pedimented "frontal," and the wicked pretence of two storeys and an attic as a mask for a single large room (though, as regards the "frontal," it is only fair to the eighteenth-century architect to point out that his original design was for a tall portico, which, however, was deemed to project too far, interfering with the view of the Abbey, and on that account was flattened against the façade). These things were "very distasteful" to Brydon, "who preferred the Gothic rule by which the exterior of a building answers to the interior"; nevertheless, the façade of his new Concert Room, where such principles are carefully observed, does little to substantiate the claims of good morals in architecture. Whatever its deficiencies, there is a quality in Baldwin's façade which Brydon's does not possess, and if one tries to discover what it is, I think the conclusion will be, that the design is more straightforward, more restful, and displays a better sense of proportion. In the front of his Concert Room Brydon was required to echo the façade of the Pump Room, but evidently he felt this was too tame, and so in his own work he has introduced a few lively "features," to wit, a Venetian window surmounted by a decorative arch with projecting voussoirs at intervals, a pair of niches with pediments, and some swags; but these allurements fail to satisfy, and in the end one could wish that the architect had followed the old work in a humbler spirit. More and more I am becoming convinced of the necessity, in classical architecture, for the suppression of the desire to go one better. The alternative is no less than to attempt to run before one can walk. We have lost all tradition, and the only way to get an equivalent for it is to follow without egotism in the steps of those who had a tradition. Undoubtedly these architects of Bath possessed the art of fine building, and a very subtle art it is. I will not pretend that there is not a theatrical element in it; admittedly there is; but even that charge cannot detract from the grand effect of the Stall Street front of the Pump Room, with its colonnades—surely one of the finest things of its kind in England; and few will deny the effectiveness of the Circus, whatever fun may be made of its trio of Orders. A piece of building at Bath which is more open to criticism is the great Crescent. The sweep of it is magnificent, but this Crescent is

in dire need of a central feature, albeit the spire of a modern Gothic church sticking up at the back does its best to supply the deficiency. Moreover, it happens upon the composition casually from the ends, and the foreground consisting of a piece of grass land falling away in haphazard fashion fails to give the Crescent a proper setting. It needs in addition to a central feature a great balustrade stretching as a chord from pavilion to pavilion, with terraces and steps in the centre leading to the level.

* * * *

Turning now to the other great period of Bath there are the Roman remains to consider. The springs were not discovered by the Romans—there not the legend of Bladud, Prince of Britain who was cured by the magic waters in the eighth century B.C.? But it was the Romans who put the springs to such splendid use. As soon as the affairs of the army of occupation had settled down comfortably, the Roman military and civil administration, remembering the baths of their Imperial predecessors, cleared the morass in the vale of the Avon, and started building a series of bathing halls, as well as a great temple to Minerva. It is well for the reader to remember that the existence of an extensive system of Roman baths at Bath was unsuspected till the 'eighties of last century. A sudden discovery gave the clue. To explain this it is necessary to retrace history. When the Romans began the work of constructing their baths they built a large masonry chamber around the head of the springs, and this chamber can be seen intact to-day. In connection with it was constructed a large culvert, which served to take away the overflow. Following upon the neglect of the baths by the British after the Romans had gone, and the subsequent sack of Bath by the Saxons in A.D. 577, the culvert got choked with debris, and in the course of years the whole site became a morass once more. With silt washed down from the surrounding hills the level of the ground gradually rose, and eventually it was about 15 ft. above the water-level of the baths. Houses were built, and it was the subsidence of one of these in 1882 that caused Mr. Davis, then architect to the City of Bath, to sink a shaft, and to make excavations. That led to the discovery of the Roman baths, as well as a system of hypocausts, the prototype of our own Turkish baths. At one time and another five baths of the Romans have been discovered, but it is computed that altogether the buildings must have covered over seven acres, and what are now known as the Roman baths of Bath are only a fragment of the whole. That somewhere under the city there must still be the ruins of a great series of buildings. The Bri-



THE LARGE ROMAN BATH AT BATH BEFORE AND AFTER THE ERECTION OF BRYDON'S COLONNADE.



MALL HOUSES OF THE LATE GEORGIAN PERIOD (SERIES II.). XI.—RIVER-HOUSE TO SYON HOUSE, ISLEWORTH.
ROBERT ADAM, ARCHITECT.

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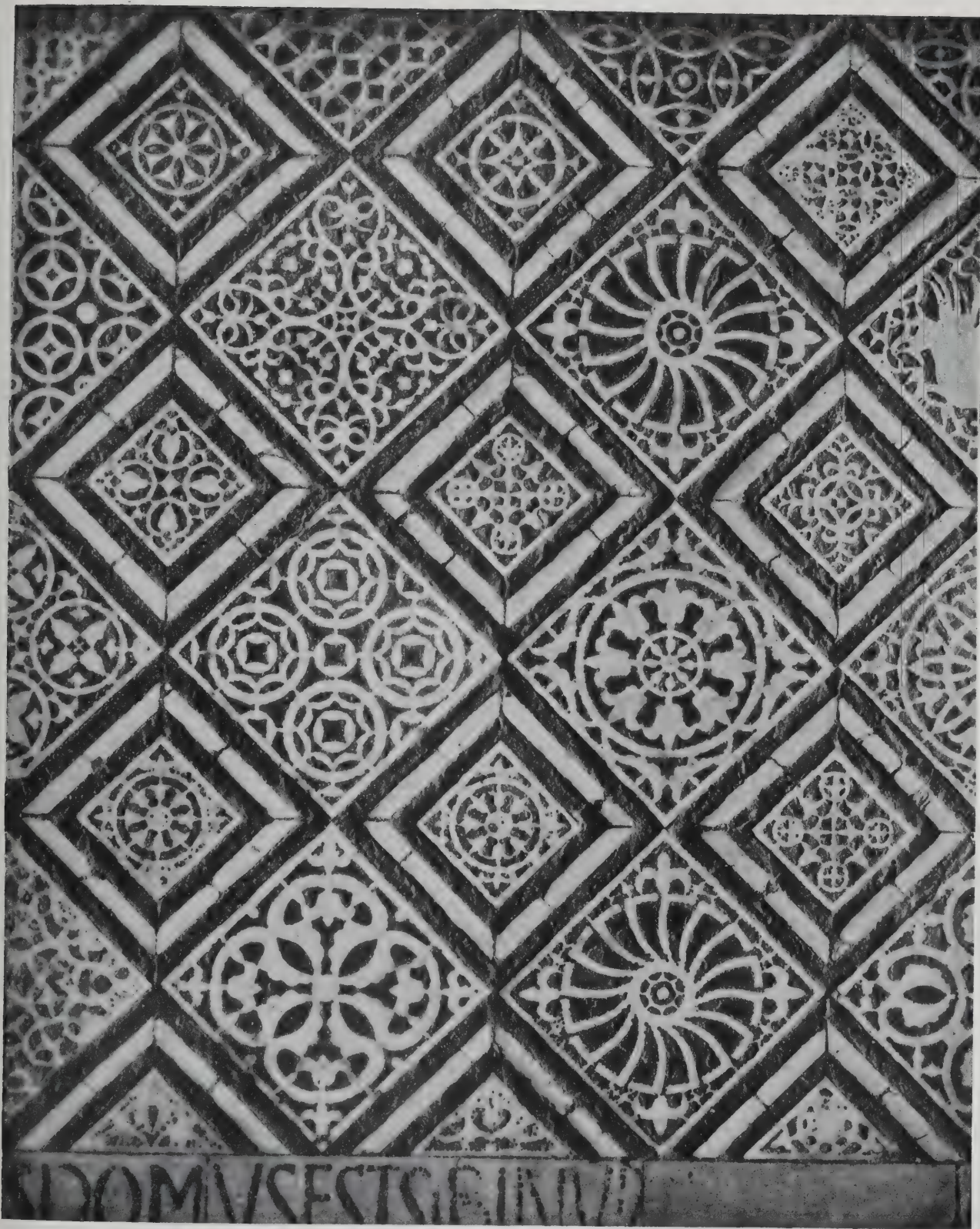
MONUMENTS. II.—PANEL ON SHAW MONUMENT, BOSTON, MASS.

AUGUSTUS ST. GAUDENS, SCULPTOR.

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DETAILS OF CRAFTSMANSHIP. XLI.—DETAIL OF PAVEMENT IN THE BAPTISTERY, FLORENCE (A D. 1200).



Photo: Bedford Lemere & Co.

LONDON FAÇADES. II.—ARMY AND NAVY CLUB, PALL MALL.

PARNELL AND SMITH, ARCHITECTS.

bitants were unable to maintain the Roman baths in a proper state; some of the baths were built up, while very little seems to have been done in the way of repair. The Saxons, of course, completed the work of destruction, and in the Middle Ages the baths appear to have been used as a quarry for material for the Abbey builders.

It is interesting to compare the accompanying views of the large Roman bath before and after restoration dealt with it. In the left-hand view it will be noted that the piers consist of three distinct portions. The explanation of this would seem to be as follows:—The Roman bath when originally built was a simple arcade on either side; the piers of this arcade are the central blocks in the photograph. On either side of the bath were dressing-boxes or changing places, and the British climate being presumably very much the same in the first century as it is in the twentieth, the Romans soon found that the enjoyments of bathing in the open air were not enough, which pertained to the South; accordingly a vault was thrown over the long sides of the bath, and the piers of this vault that are seen on the left-hand side of the photograph. But even this did not meet the case: the covering-in of the whole bath was considered essential. The Romans therefore built heavy piers on the steps of their bath, and upon these piers they carried a cambered roof of tile and cement construction. At one end of the bath can be seen to-day great segments of this roof, the construction of which is practically the same as that adopted in the modern Kleine floor, except that the Romans depended on their cement entirely for holding the tile blocks together, whereas in the modern construction it is necessary to use hoop iron as reinforcement. The Romans lined their bath with lead, obtained from the Mendip Hills; the lead sheets measure 10 ft. by 5 ft., and weigh 40 lb. to the foot, and are about $\frac{5}{8}$ in. thick; they are still *in situ*. The hot springs of the bath come up at the uniform temperature of 120 degrees Fahr., the supply being less than 500,000 gallons per day. The large Roman bath has a depth of about 5 ft. of water. It was used by the Romans as a swimming bath and as a hot mineral bath for curing ailments. For a bath or for drinking purposes, the Romans laid a large lead pipe delivering a stream of cold spring water into the bath at one point; this pipe is also *in situ*; it can be seen at the extreme left-hand side of the view of the bath before the colonnade was erected.

At the time Major Davis was busy with his excavations, a heated discussion took place as to what should be done with the baths. The new Concert Hall had been decided on, and eventually it was decided that Brydon, the architect, should put a colonnade and terrace around the large bath, supported on columns. The accompanying view shows what he did. Personally, I think it was a mistake. Brydon did not attempt a restoration of the Roman bath, but at first sight his work gives one the impression that he did, and his colonnade cheek by cheek with the Roman fragments is, to my mind, a very unhappy piece of work. Better to have left the bath as a ruin. As it stands, it is neither completely restored nor the other. Brydon, of course, was faced with a very difficult problem—the old problem of what to do with a ruin. He thought once of putting a sort of iron swimming bath roof over the bath, but that would have been the most unsatisfactory expedient of all, despite its merit in preserving the ruins from the weather. The miserable effect of the roofed-over ruins is seen in the remains so preserved under the arches of the Concert Room, which look like nothing but a mass of rubbish that has not

been cleared away. All considered, a plain walled-in enclosure open to the sky would perhaps have been the best arrangement. It would have suggested the hall in which the bath was originally set, and there would have been no element of the mock-Roman work that Brydon's colonnade suggests.

In one particular, history is repeating itself at Bath. With the establishment of the baths, the Romans developed their colony. The hillsides around were dotted with villas, and on Combe Down was erected a sanatorium where Roman officers in Britain could go to complete their convalescence after having had a course of treatment at the baths. To-day officers and men invalided home from the Front are receiving similarly the therapeutic benefits to be derived from the hot springs. In the early days of the War the Corporation of Bath placed their bathing establishments, free of charge, at the disposal of the War Office and the Admiralty, and hundreds of men have had their ailments cured and their sufferings assuaged. So excellent indeed have the waters of Bath proved that the Government is now building a hospital at Combe Park to accommodate 500 patients. And besides bringing soldiers to Bath this War has brought the well-to-do in numbers never before equalled. Bath has come into its own again; in point of fact, it has never enjoyed such a time of prosperity as the present, which excels even the hey-day of Beau Nash. Baden-Baden, Carlsbad, Nauheim, are now beyond the Pale, and the English upper classes have, by force of circumstance, discovered the equal merits of our own spas. And having done so in this time of War, there is every hope that they will henceforth continue the good habit.

UBIQUE.

THE PLATES.

River-House to Syon House, Isleworth.

THIS little house overlooks the Thames at Isleworth. It has a gay air, appropriate to its use, but is nevertheless a very careful piece of architectural design by Robert Adam. The building consists of a circular room with two wings, the central room having French windows opening on to a little balcony and being covered with a saucer-dome. The front is stuccoed and painted. It is especially charming as seen from the river.

Panel on Shaw Monument, Boston.

The Shaw monument at Boston was erected in honour of the Black Regiment who fought in the American Civil War. Messrs. McKim, Mead, and White were the architects, and the late Augustus St. Gaudens executed the panel which is shown on our plate. This panel is a fine example of modern sculpture. General Shaw is seen seated on his horse, with his men marching on beside him. Above is a guardian angel.

Enrichments from Manchester Old Town Hall.

This is the last plate in the series. It shows the mouldings and enrichments in the main hall of the building.

Pavement in the Baptistery, Florence.

It will be noted that the pattern on this fragment of tile pavement in the Baptistery, Florence, while being geometrical, is not mechanical; and it is the character of it thereby gains that makes it so vastly superior to modern work of the same kind.

Army and Navy Club, Pall Mall, London.

So far as their façades are concerned, several of the West-End clubs follow Italian models to a marked extent. The Reform, for example, owes something to the Farnese Palace, Rome, and the Carlton owes more

to Sansovino's Library, Venice. Similarly, the design of the Army and Navy Club is modelled on the Palazzo Cornaro, in Venice. The club was built in 1847-50 from designs by Messrs. Parnell and Smith. It is an imposing building. The piers of the lower storeys form a strong base for the upper part, which has twin columns between the windows, and the frieze and balustraded cornice serve to add richness to the design.

A Terminal Hotel, Liverpool.

This design by Mr. Vincent Hull gained the First Lever Prize at the Liverpool School of Architecture. The scheme consisted in redesigning the Lime Street terminus hotel and station, and arranging it axially with St. George's Hall, so as to be more in consonance with that magnificent building. The perspective reproduced on page 233 shows the general effect of the new design and the rearrangement.

Steelwork Details of New Building for W. H. Smith and Son.

The sheet shows details of the stanchions and connections in Block C of Messrs Smith and Son's new factory (see foundation plan on page 211 of our issue for November 10). Mr. C. Stanley Peach, F.R.I.B.A., is the architect.

"GEORGIAN" ARCHITECTURE IN HOLLAND.

IN view of the fact that it was the architecture of Holland that influenced English architecture so strongly during the seventeenth and eighteenth centuries, and not English architecture which influenced that of Holland, the above title may be regarded as indefensible; but it serves a present purpose of indicating that the bulk of the houses in Holland are not of that "quaint" and "picturesque" picture-postcard type which we are too much accustomed to believe them to be, but display the same character which we associate with our own "Georgian." It is the artist holiday-maker who has been chiefly responsible for the mis-impression. He has made us think of Holland as a place not only of windmills and red cheeses and buxom girls in bright costume, but also as the very home of stepped gables, bulbous church spires, riotous weigh-houses, and exuberant town-halls. The architect with a sketch-book has also been a culprit. He has ever been on the look-out for "bits," and

on his return has had nothing to show us but Renaissance buildings as immature as our Elizabethan. Moreover, the architecture of the north of Belgium—Bruges, Ypres, Antwerp, Malines—has been confounded with the much less florid work abounds in Holland, and so we have come to think of both countries as devoid of any secular buildings worth standing the strain of close study. Yet the fact is that Holland offers us a wealth of houses which may be regarded as the very genesis of our own Georgian architecture, than which, excluding the Tudor, no houses are more delightful to look at and to live in have ever been seen in England. The towns of Holland, in truth, have a little of the gabled house-front with its crow-stepped gables and stone spikes as they have in the way of "quaint" costumes. You may go a whole day about Amsterdam without ever a sight of a stiff snow-white bonnet and a boy in baggy trousers and clogs—so does cosmopolitanism make all things level; and as for the "picturesque" Dutch house, you will find a hundred flat fronts, with square-headed windows in order of rows and a deep crowning cornice, to every square foot of the kind we have been accustomed to regard as common to Holland. The accompanying illustrations will serve to indicate how sadly the Georgian enthusiasts have misled us.

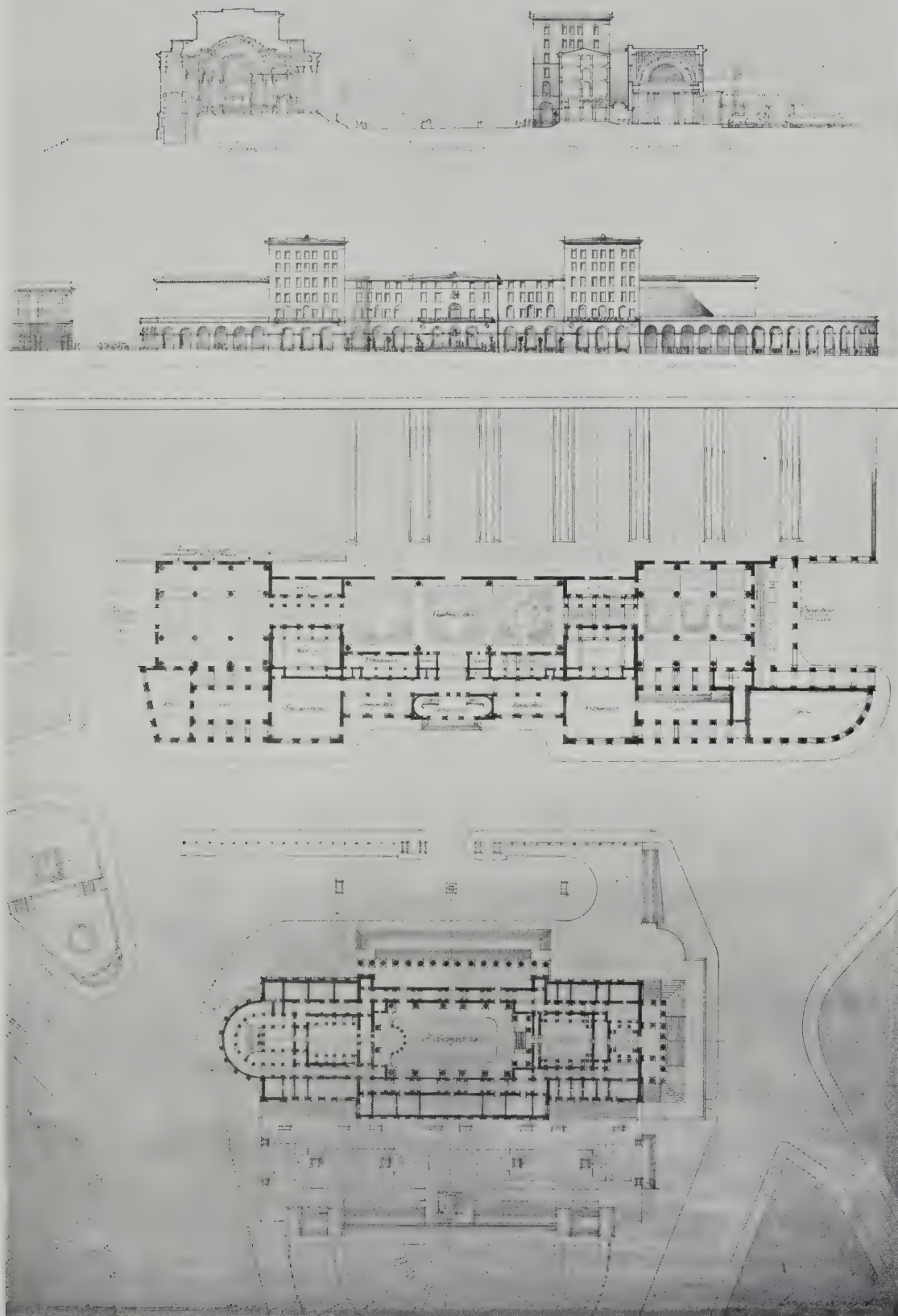
In referring to Holland, no matter from what point of view it is being considered, we have been accustomed to think of the two great outstanding features of the national achievement brought into prominence—first, the struggle for independence, culminating in the throwing over of the Spanish allegiance towards the end of the sixteenth century, and, secondly, following directly upon this, the rise of a glorious school of painters. There can be no doubt that the memory of these deeds of heroism and valour, and the sight of the marvellous collections as those in the Mauritshuis and the Rijks Museum, are Holland's supreme possessions; but there are quieter virtues and humbler attainments to take into account also, among them being the cultured life of the wealthier class, and the diffusion of art of house-building which has much to offer in the way of excellence.

It would have been interesting if Evelyn, who visited many places in Holland, had given us such a detailed account of the town houses he saw; but there is practically no mention of these in his "Diary," the only entries being such as the Senate House at The Hague, having "a very stately portico, supported with choice pillars of black marble, as I remember, of



PEDIMENT OF HOUSE ON THE TOURNOOIVELD, THE HAGUE.

A RAILWAY TERMINAL HOTEL



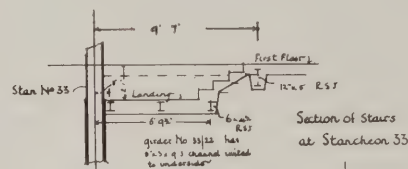
STUDENTS' DRAWINGS (SERIES II.). VI.—DESIGN FOR A RAILWAY TERMINAL HOTEL, LIVERPOOL.
BY VINCENT HULL.

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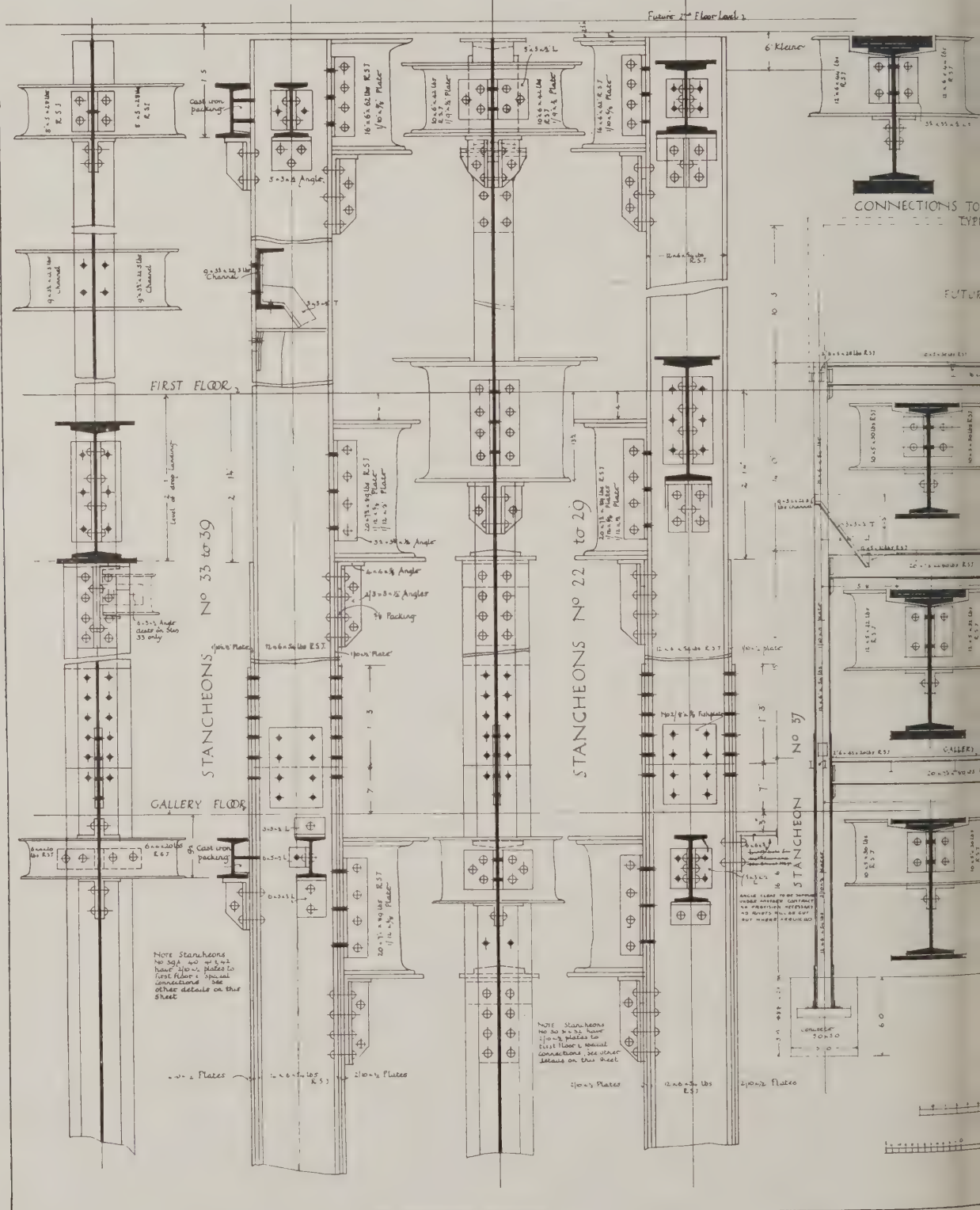
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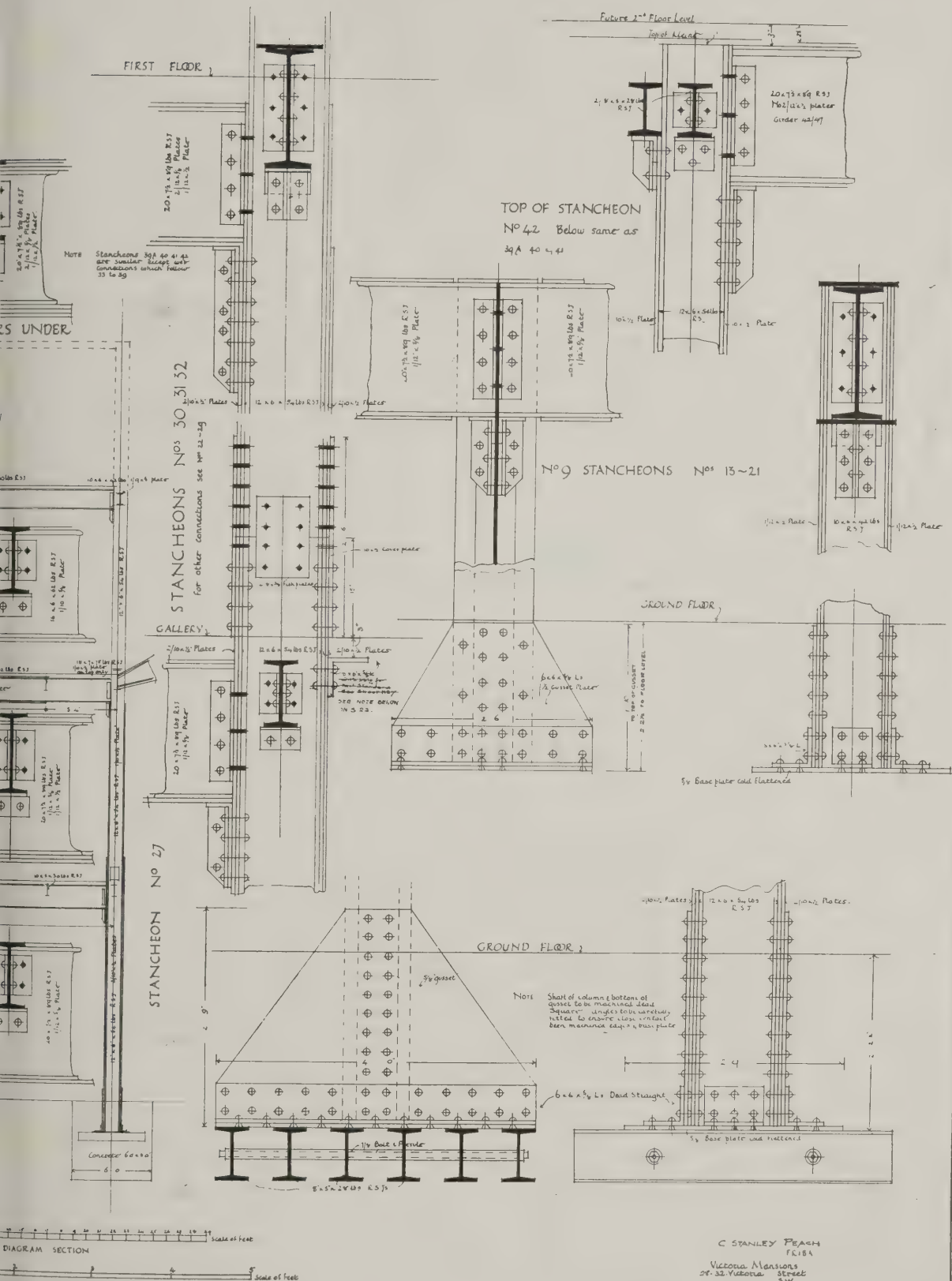
NEW FACTORY FOR M^{ESSRS} W. H. SMITH & SON, STAMFORD STREET

STEELWORK
BLOCK C Sheet No 3
TO CORNWALL ROAD



Notes Sizes of quaders to be taken
Rivers in Stanchions $\frac{1}{2}$ bar
where otherwise shown
Rivers in sheet of Stanchions
Rivers in compound quaders $\frac{1}{2}$
Rivers to be counter sunk white
Boils in parts of Stanchions to
Boils in connection of quaders
quaders to quaders to be $\frac{1}{2}$ bar
otherwise





C STANLEY PEACH
F.R.I.B.A.
Victoria Mansions
27-32 Victoria Street
S.W.

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stone," and Haarlem being "a very delicate
e, and hath one of the fairest churches, of the
designe, I had ever seene." He was, pre-
soly, more interested in the gardening and the
es, as may be judged from his reference to the
ry house of the Prince of Orange, "for nothing
remarkable than the delicious walks planted
ime trees, and the moderne paintings within."
e best of the houses in Holland belong to the
d half of the seventeenth century and the first
er of the eighteenth, but for a considerable time
wards house-building continued to display the

centre than Lange Voorhout, ample in dimensions,
and planted with magnificent trees. One of the finest
houses to be seen in The Hague is that shown
below—the former town-house of John van
Oldenbarnevelt, the powerful Grand Pensionary of
Holland, whose execution as an old man of seventy-
two, in 1619, was such a blot on the reign of Prince
Maurice, son of William the Silent. This house is now
occupied as the Ministry of Finance, and has suffered
certain alterations—notably the loss of one wing—but
it remains a splendid piece of fenestration and excel-
lent brickwork. The central feature here embraces



HOUSE ON LANGE VOORHOUT, THE HAGUE, NOW OCCUPIED AS THE MINISTRY OF FINANCE.

s of appropriate treatment and good proportion.
ouses can be found in almost every town, but
more richly than in Middelburg—the capital of
vince of Zeeland, a place which is full of
and preserves much of its old-time fashions;
by reason of its proximity to one landing-place
ing—and its distance from another—The
it generally escapes the attention of the hurry-
eller.

he Hague may be seen some especially note-
examples of dignified house-fronts. The
ble residential quarter known as Lange Voor-
esents two long fronts of houses of stately
er, set at different angles in conformity with the
rectangle on to which they face. It would be
indeed to find a more imposing residential

three storeys, a favourite treatment which is adopted
for most of these tall houses.

But though the seventeenth and eighteenth centuries
offer such good models for house-fronts in Holland, the
example unfortunately is not appreciated as it should
be by the modern builder, and, as a result, the most
garish tasteless fronts offend the eye in many a street,
often standing cheek by jowl with the good old work,
to the detriment of both.

Just as, according to philologists, the Dutch
language is, because of its close kinship to English,
worthy of much closer attention than it has received
in this country—the one language throwing much light
on the other—so, and for a similar reason, Dutch
architecture deserves to be much better known by
English architects.

THOUGHTS ON WAR AND PEACE.

BY A SOLDIER-ARCHITECT.

IN his presidential address to the Northern Architectural Association last week, Mr. R. Burns Dick, F.R.I.B.A., now serving with the Forces as captain in the Tynemouth R.G.A., set aside the topics conventional to such an occasion and devoted himself instead to a consideration of the great forces for destruction and for building up which the War has brought into full power. The present, he said, was no time to pursue the old way, shuffling the dry bones of archæology; no time even to consider the practical problems that engaged our attention in times of Peace. What we have to do in the immediate present is to use every endeavour to defeat the forces that are deliberately upsetting all those conditions on which we based our course of action in solving those many problems. 'We must first grasp the import of this great upheaval; this is not the final war; it is the first of a new epoch. No matter how or when the conflict comes to an end, can anyone picture a peace that will be anything but the pause of exhaustion? We are a peace-loving people, and I believe would be content to remain so if it were possible, but though there are people amongst us so afflicted with incurable myopia as would lead them to accept peace now, the slumbering war spirit of our ancestors at present being aroused by the aggression of other peoples is likely to take a more or less permanent set, and, indeed, will of necessity require to do so if we are to be in a position to meet the fresh assaults on our existence as a nation which will assuredly follow in the not distant future.'

"One potent factor which seems always to escape the well-meaning world pacifists is that so long as you have mankind divided up into different races, with different languages, different religions and traditions, different ideals, customs, and modes of thought, and different views of each other's importance in the scheme of things, so long will you have strife. This is no new condition, but it is one that must be ever reckoned with; it is this one from which this and all wars have sprung, and it must be treated as permanent so far as the shaping of our future action is concerned. . . . In our own case Nature and a supreme Navy, which we have gradually come to assume as all that is needed to comply with this elemental necessity, has lulled us into individual detachment from world-strife; so much so that even in the throes of a death struggle for existence we have one of the most amazing exhibitions of the workings of the human intelligence that history can record. These means of self-preservation having failed as complete measures, the extraordinary question is under consideration as to who amongst us shall take on the burden of facing the enemy, who shall leave his private and business affairs to take up the long-neglected shield and sword in his own and his country's defence. Shall every citizen, as a matter of course, be called upon to do what he is considered best fitted for in the crisis, or shall it be a matter of chance left to the individual? . . . To meet the conditions of this new epoch, and as a matter of self-preservation, I unhesitatingly assert that the only way is to organise and encourage a universal military habit as part of our daily life. I can see the expression of horror on the faces of those good people

who live in terror of 'militarism.' I see nothing whatever to fear from the general training of the citizen to arms. It is the one sure way to kill 'militarism.' No longer would it be possible, even if it had ever shown itself in Britain, for an exclusive professional military class to dominate the nation. The nation itself would be the army, and would not lightly forsake its peaceful pursuits at the behest of the professional fighter. I see nothing but good in such a change.

A New National Structure.

"When our foes are beaten to earth and the sword is sheathed, we architects must be in the forefront of those who lay the foundations of a remodelled national structure. Let us be the first to formulate plans for its extension and alteration, such as will condemn all decayed and useless parts, preserving only the firmly based and soundly constructed core, in which are preserved the glorious traditions of a thousand years.

"In this new national structure the ideal to aim at, it will be agreed, is to construct it and maintain it by the best intelligence available. It cannot be contended that this is the basis on which is reared our existing national and local government. . . . I would wipe out ward representation and the voluntary representative. Instead of making use of the ward divisions I would divide the population into sections, each representative of one of the various interests which form the life of the city. These sections or 'interests' are nearly all defined, and more or less organised in their respective associations or unions. How many branches of activity would thus be represented would depend upon the size and character of the community concerned; for instance, the shipping interest might be very large in one place and non-existent in another. Having settled on the number of 'sections' in any district, each qualified elector would by right be entitled to become a member of that which he considered most nearly represented his business or 'interest.' Each section or 'interest' might supply a representative to the Council, whose duty would be to advance not his own personal views on vital questions affecting the city's welfare, but the studied view of his 'section,' arrived at through its committees and council. These representatives might be paid permanent officials of their societies, presidents, or members specially selected for their peculiar fitness, acting for longer or shorter periods as the exigencies of the city work required. The size of the council could thus be reduced, for though it might be considered that one 'interest,' being so large compared with another, should have a larger say in local affairs, this could be done by giving increased voting power to the representative of the greater.

"The local authority would then be a collective organisation at its best, composed of representatives of all branches of local activity—military, educational, legal, financial, commercial, labour, medical, architecture and building, engineering, social, religious, etc., all giving the result of co-ordinated effort in their respective spheres to the furtherance of communal interest and advancement. . . .

"It would be the duty of each of these societies or 'interests' to form what I might be allowed to call, provisionally,

a Foresight Committee, devoted to study of the changing conditions affecting their special spheres of activity, their possible influence on the affairs of the community in general—to prepare events and formulate proposals to meet them, and to confer with committees in other sections, finally bringing the result of their deliberations through their representative. All this would, of course, involve a decided change in the attitude of the individual towards public affairs, but unless this does take place improvement is possible. . . .

"What a field for the imagination of a Foresight Committee would open up; opportunities for the application of a gift in the reconstruction of our cities can hear some city father saying: 'don't want the dreamer and the visionary on our councils; we want the practical man.' My answer to that is that the man on committees (Building Committees at any rate) who is a real back to the satisfactory prosecution of work is the so-called 'practical man.' He is usually a man of very limited, if not entirely practical—knowledge—unimaginative and very narrow outlook, fearful of losing amongst his confrères by admitting inferiority of knowledge, and one whose influence, if allowed to play, is more than not reflected in inferior, uneconomical, and inefficient work, barely sufficient for the needs of the moment, showing no intelligent anticipation of the needs of the future. We have to and to spare of these men; we want a man of imagination to give some idea of what may be demanded in the future of the work of the practical man of to-day.

"It might be possible to extend such a system as I have sketched so far to national government. Nearly all societies and unions throughout the country are affiliated to or together form national or central societies which elect by their respective representatives, for much reduced and more efficient management. But whatever system the people may devise for the utilisation of its best brains, we must not wait until change is accomplished. We must commence to think now, so that when the present crisis is over such action can be commenced as will add its quota in bringing about. . . .

The City of To-morrow.

"Our Foresight Committee might commence by studying the effects of military offensive against cities that commencing to develop. This opens a very large field for thought and ingenuity. Building construction must be considerably modified. The planning and form of public buildings will undergo appreciable change; indeed, the whole sign and appearance of cities will not only in the normal way due to advance in scientific and industrial methods but directly to the growing power and destructiveness of outside attack, chiefly overhead.

"I can see the gradual increase in proportion of open spaces; the general introduction of underground or decked roadways, with their solution of traffic problems combined with safety to the population; the general adoption of covered and arcaded footways (on the lines of the Ritz Hotel, Piccadilly), having actuated steel shutters, the general

huttered windows of special design, the entire absence of inflammable material where exposed to incendiary attack; tiled and slated sloping roofs entirely abandoned in favour of very strong roofs specially adapted for anti-aircraft appliances, and, in the case of large continuous blocks of buildings, without setbacks and specially prepared for the landing and housing of avions.

I can imagine the national treasures being remodelled; picture galleries with suspended wall linings on which the pictures are fixed, and which could be easily dropped to their safety vaults; museums with their cases of treasures, their statuary, and so forth, arranged on continuous lift platforms similarly capable of being lowered to a place of safety by the pressing of a button; schools and similar public buildings so modified as to show the large part that national service in its wider sense plays in education, but also to make them immediately available for the accommodation of the citizen in arms, at the signal of alarm; factories, where the worker on mobilisation orders becomes a soldier with allotted place, so arranged as to become his quarters in war until required elsewhere; the creation of new types of buildings and athletic areas for the systematic training of the citizen soldier and the education of the woman in her impromptu duties in time of war. I can also imagine a network of subways, linking up important centres and the permanently constructed and well-equipped trenches connecting the great industrial centres; electric generating stations entirely underground, supplying the lighting and motive force for industrial, domestic, reserve, and war requirements; great government laboratories for scientific and engineering research; and so forth. Each according to his knowledge and imaginative faculties can make a mental picture of the aspect of future centres of all probably very wide of the actuality, none more widely divergent than will be the change from the present state of affairs.

SOME CONCLUSIONS ON HOUSING.

BY W. E. RILEY, F.R.I.B.A.

On Wednesday last at the Royal Sanitary Institute Mr. W. E. Riley, F.R.I.B.A., Superintendent Architect to the London County Council, delivered a Chadwick lecture on "Some Conclusions on Housing Our Workers." Mr. Riley referred at the outset to the principles which govern housing operations in large towns. Statutory restrictions usually require that, where areas are condemned as unhealthy, dwellings must be provided on the area or its vicinity, this being due probably to the popular view that many more of the working class find it necessary to live near their work than actually obtains. The War has, however, produced a new set of circumstances. It became necessary to augment the staffs of some works and to create others, involving the employment of large numbers of workers. These establishments by their nature have to be in more or less sparsely populated districts, and the problem has arisen as to how to provide homes for thousands of employees, for whom it is vitally necessary that they should live close to their work. This could be done either by the erection of huge blocks of tenement dwellings or of cottages, and Mr. Riley expressed satisfaction that the German method of housing in block dwellings was not being followed. He quoted figures showing that while the average number of inhabitants per house in London is about 8, in Berlin the number is now 77. The result of this overcrowding is, that in Berlin the percentage of deaths from tuberculosis is half as great again as in London, and London has about 30 per cent. less deaths between fifteen and twenty-five than Berlin has.

Mr. Riley referred to efforts which had been made by the establishment of colonies for workers at Bournville by Mr. Cadbury and at Port Sunlight by Sir William Lever. These areas are laid out in an extremely generous manner which none but mer-

chant princes could hope to carry through. The most recent large scheme is the public enterprise embarked on by H.M. Government to provide accommodation at Well Hall, Eltham, for workers at Woolwich Arsenal. An area of about 100 acres is being covered with cottages, of which there will be on the east side of Well Hall Road about 65 of the first-class, 249 of the second-class, 411 of the third-class, and 212 of the fourth-class, the last being flats of the maisonnette type. The areas are laid out with streets 40 ft. and 30 ft. in width, the latter being in contravention of the London Building Act. Mr. Riley described the accommodation to be provided, and pointed out that the financial phase of the experiment cannot be compared with that of other authorities, trusts, and companies, as no details of cost are made known. The conditions under which the accommodation was required are exceptional, and result in the relation of rent to capital cost being disregarded. Where the Government provide the site and buildings, and the worker earns a wage considerably in excess of what he receives in peace time, questions of ability to provide adequate accommodation on a sound financial basis do not arise, but it will be one of the problems following the War whether such schemes can be made into satisfactory investments.

Mr. Riley spoke of the predominance of economic considerations in all normal housing operations, and stated that his experience was that the crux of the problem was the cost of the site. He pointed out how the commercial value of cleared sites in central districts has to be written down to a housing value, in the case of the Boundary Street area the reduction being from £131,670 to £62,010. He briefly described the clearances at Boundary Street and Tabard Street, and said it was undeniable that in clearance schemes in London the rates have had to bear considerable burdens, and he expressed the view that it is not practicable to re-house in central districts, as the work should be done without some form of subsidy. Some clearances in such neighbourhoods will



A RAILWAY TERMINAL
HOTEL

DESIGN FOR A RAILWAY TERMINAL HOTEL AT LIVERPOOL. BY VINCENT HULL.

(For particulars see page 230).

continue to be necessary, but Mr. Riley pointed out that property owners were taking practical interest in the problem. H.M. the King had given a notable lead in dealing with the Duchy of Cornwall Estate in Kennington.

It was not on account of financial considerations alone, however, that endeavours should be made to draw the industrial population from crowded centres to spacious and healthier suburbs. Growing importance is being attached to abundance of light and air. It is claimed that buildings should be so designed that the direct rays of the sun should penetrate through every part of living rooms. At the Housing Congress at Ghent in 1913 considerable criticism was levelled at the construction of model block dwellings in England, particularly at the enclosing of common staircases, the exclusion of sunlight, and the want of cross-ventilation in tenements. Such financial and hygienic difficulties do not arise in the construction of cottage homes. Mr. Riley described the schemes of the London County Council for the development of estates at Totterdown, Norbury, White Hart Lane, and Old Oak Common. The work of the Local Government Board under the Town Planning Act was also referred to, and the lecturer finally asked which method of housing, having regard to environment and the physical and moral advantage to the family, the great sanitary reformer Chadwick would probably have chosen. He (Mr. Riley) had long ago concluded that the weight of opinion must go with the suburban cottage, and he thought he would have had Chadwick's endorsement.

LEGAL.

German Steel Contracts declared Null and Void.

S. Pearson and Son, Ltd., v. Maschinenfabrik Augsburg-Nürnberg Aktiengesellschaft and S. Pearson and Son, Ltd., v. Gutehoffnungshütte-Aktiengesellschaft für Bergbau und Hüttenbetrieb.

November 12. King's Bench Division. Before Mr. Justice Sankey.

These were motions by the plaintiffs for judgment.

Mr. Marriott, for the plaintiffs, asked for judgment for declarations in the terms set out in the statement of claim. Plaintiffs were the well-known public works contractors, and they entered into two contracts with the Port Authority which involved large works—extensions—of the Royal Albert Docks in July, 1912. By their contract with the Port Authority they were directed to place certain sub-contracts for structural steel machinery with the two German firms in question. No delivery was made of the machinery contracted for, and since the outbreak of war it had become impossible to deliver the goods. The plaintiffs, under the circumstances, submitted that the contracts were null and void, and they asked for declarations to that effect. Defendants by their defence admitted that the sub-contracts were null and void and submitted to the declarations asked for.

Mr. Lilley, for the defendants, made no objection to either declaration, but opposed the plaintiffs having costs, as defendants had placed no obstacle to the proceedings.

His lordship made the declarations asked for, and gave the plaintiffs costs against the defendants.

Contractors and Bond: Cost of an Arbitration: Liability.

Hoole Urban District Council v. The Fidelity and Deposit Co.

November 15. King's Bench Division. Before Mr. Justice Bailhache.

This was an action by the Hoole Urban District Council of Westminster Road, Hoole, Chester, against The Fidelity and Deposit Co. of Maryland, of Old Broad Street, London.

Plaintiffs claimed £500, which, it was said, defendants were liable to pay to them, under a bond given by them to the plaintiffs, dated September 24, 1912.

Mr. Leslie Scott, K.C., M.P., and Mr. Carradoc Rees appeared for the plaintiffs, Mr. A. Roche, K.C., and Mr. McCardie, and Mr. H. T. Rowland for the defendants.

Mr. Carradoc Rees, opening, said the plaintiffs employed a certain contractor to do certain works near Chester, and the defendants guaranteed the contractor. The point in dispute between the parties was that the defendants now objected to pay the costs incurred in an arbitration between the contractor and the Hoole Urban District Council. By the bond for £500, defendants became bound to the plaintiffs for the proper carrying out of the work in question. The contract was between the said contractor and the plaintiffs, under which the contractor contracted to execute, perform, and complete the work which was mentioned in a certain specification which was subject to certain conditions and stipulations and duly set out. The condition of the bond was declared to be: That if the contractor should "well and truly perform" the contract, then the bond should be void. There were complaints, however, as to the non-completion of the work, and certain mains broke away, which occasioned great damage. The contractor said he had completed his work, but plaintiffs said he had not, and there were certain works that plaintiffs had to complete themselves. Disputes also arose as to the amount payable by the plaintiffs to the contractor and as to the amount payable by the contractor to the plaintiffs for his alleged breaches of the contract. By the contract all disputes were to be decided by arbitration. The contractor, however, brought an action against the plaintiffs to recover what was alleged to be due to him, but by an order dated May, 1914, the action was stayed and the matter referred to Mr. C. Squarey Pain, of Liverpool, who was appointed to act. That gentleman by his award found that the plaintiffs were entitled to recover from the contractor a certain amount, and that the contractor was entitled to recover from the plaintiffs a certain smaller sum, and he left judgment in favour of the plaintiffs for £177 1s. 7d. with costs, which he directed should be entered. He ordered all the costs of the arbitration to be paid by the contractor. The defendants had sent a cheque, at the time the writ was issued, for £177, but refused to pay any costs of the arbitration. Unless plaintiffs had done anything unreasonable, they were entitled to their costs in enforcing the contract.

Mr. Roche said the bond was an ordinary bond, which at common law would have entitled plaintiffs to recover the whole sum upon any breach of contract, but that had been altered by statute. The bond here was concerned with specific breaches of contract, but here other matters had been involved which were nothing to do with the defendants and who could not be held liable. They could have

put the onus of disputing or admitting matters in question on the defendants but instead of doing that they mixed the matters with something that the defendants had nothing to do with. The plaintiffs' course was to go against the contractor. If they did not do that they took the risk, and defendants were not bound in law to make good their expenses, because they were not the responsible parties for the breaches which were assigned. The breaches were quite independent and later contract.

His lordship, giving judgment said, in consent, the whole dispute was referred to an arbitrator. The result of the arbitration was that the contractor recovered £152 and the Council £329, which left a balance on those figures of £177 due from the contractor to the Council. The Council incurred in respect of the action an arbitration proceedings, party and party costs £398. That being added to the £177 made a sum of £565, viz., £65 more than the amount of the bond. Plaintiffs could not under any circumstances recover more than the amount of the bond. Defendants claimed that while they were liable for £177, they were not liable for the costs of those proceedings, viz., £398. He was of opinion that the course taken by the Council was eminently reasonable. He was, however, unable to find any contractual promise by the contractor to pay the costs, the subject matter of the action. He had therefore reluctantly come to the conclusion that he could not add those costs to the damages which were awarded and make the defendants pay those costs under their bond. There had been no breach of the bond which would bring those costs within the bond and the action failed. There must be judgment for defendant that they are liable for £177 only.

Plymouth Co-operative Society's Competition.

The premiated designs in the Plymouth Co-operative Society's competition will be on view at the Architectural Association, 18, Tufton Street, Westminster, during the week commencing November 22.

Engineering Institutions' Volunteer Engineer Corps.

At the first meeting of the General Committee of this body, when the president of the three premier Institutions—"Civils," "Mechanicals," and "Electricals"—were present, it was reported that an arrangement had been made for sharing headquarters with the 4th Battalion City of London Regiment (Architects' Corps). The premises comprise a spacious dining hall, and above this are the necessary offices for providing for mess rooms, common room, orderly room, canteen, etc. Through the kindness of Mr. A. Campbell Swinton, F.R.S., the corps has received present from Messrs. Crompton and Co. of a new Admiralty pattern searchlight. This is being erected on the premises of the London Electrical Engineers (T.F.) where the necessary instruction will be given. Several men have already qualified in this branch, and parties are engaged each week-end on important work in connection with the defence of London.

The corps will only accept as new members those who are over military age, are not disqualified by reasons of health, or who are engaged on War work, and who are not allowed by the Government on that account to enlist in the Forces, but who are training in this corps would fit them to take part in the defence of the country in the event of emergency.

TRADE AND CRAFT.

Reinforced Concrete Construction in Cold Weather.

Trussed Concrete Steel Co., Ltd., of New York, N. Y., have issued to all contractors carrying out the Kahn system of reinforced concrete a circular letter in which they write: "In view of the fact that cold weather is at hand, we trust you will not take amiss our reminding you of the precautions against frost which are necessary in the erection of reinforced concrete work at this time of year."

These precautions are quite simple to follow. When heavy frost is expected, the newly laid concrete should be covered with straw, cement bags or otherwise protected against freezing. In cold weather the concrete, with its supporting props, must be left in position longer than in the case of warm weather, the increased length of time depending upon the degree of frost. In severely cold weather the centering should be left in position at least half as long as under ordinary conditions.

We do not advocate the placing of concrete in freezing weather, but, in cases of extreme urgency, concrete can be placed even when the temperature is down to zero. In such cases of extreme urgency we are always prepared to give advice as to the necessary precautions which will enable concreting to be carried out with throughout the entire season. It is only reasonable that the cost of such precautions will increase with the cost of laying the concrete, but the contractor will decide whether the continuing of a job throughout the winter is not of more value than the extra cost of the necessary precautions taken.

Many contractors are of opinion that concrete which freezes after having been laid must of necessity be cut out. Although this course is generally advised, such a drastic step is not always a necessity, because concrete which freezes and is not subject to intermittent wetting and thawing will eventually set and gain its normal strength providing no centering or falsework is left in position for a sufficient length of time. If we suspect that any of your newly laid concrete has become injured by frost, care should be exercised in the removal of the props. The supporting props in such cases should be gently removed a few at a time, and the concrete work should be examined during the removal of these few props to see whether it is properly carrying its load. The Trussed Concrete Steel Co., Ltd., are always prepared to send one of their engineers to any construction where the Kahn system is being used to inspect concrete which has become injured by frost and to give any advice they are able to offer as to whether its removal is necessary or not. Please note that when using the Kahn System of Reinforced Concrete you are entitled to our services as reinforced concrete specialists, and we will send your calling upon us to give you the best of our services.

We are enclosing you herewith one of our pamphlets, "Instructions to Foremen," which discusses the placing of concrete in cold weather. This pamphlet should be sent to the foreman carrying out your work in your system."

The Mazda Half-watt Lamp.

A new type of lamp—the Mazda half-watt lamp—has been put on the market by the British Thomson-Houston Co., Ltd., of

Rugby. New developments in the manufacture of electric lamps have followed during the past ten years with remarkable rapidity. The original form of incandescent electric lamp was that in which the filament was made of carbon. For many years the carbon filament lamp was the only means by which electric energy could be applied for the purpose of indoor illumination, but its use ceased to be general after the introduction of the metallic filament lamp, which gave an infinitely better light and consumed much less current. Then followed a development which completely revolutionised the methods by which electric lamps had hitherto been made. A process was invented by which the lamp filaments were made of drawn tungsten wire. This far-reaching invention was announced by the British Thomson-Houston Co., Ltd., in 1911, and the process was employed in the manufacture of the Mazda lamp. The new development had the effect of removing a great defect in electric-lamp construction, namely, the fragility of the fila-



THE MAZDA HALF-WATT LAMP.

ment. The drawn-wire process ensured durability, and still further economised the current-consuming capacity of the lamp.

The same firm now claim for their Mazda half-watt lamp that, assuming that a 200-c.p. ordinary metal filament lamp is used, a 100-w. half-watt lamp would give equal lighting results for half the consumption of current. The quality of the light, too, has been, it is claimed, greatly improved.

The first Mazda half-watt lamps were of such high candle-power as to be suitable only for the purpose of exterior illumination. These highly efficient lamps are, however, now available in smaller sizes,

enabling them to be used with advantage for general interior lighting. They are intended for lighting factories, works, mills, shops, offices, and large rooms in private houses. The light given by the new lamps is, however, so brilliant that it is desirable to employ suitable fittings to diffuse the light and protect the eyes.

The Lighting of West African House.

It is stated that as a result of extensive investigations, an authoritative medical association has decided that electric lighting on the indirect principle is the best system of all forms of artificial lighting, and as near as possible equal to good daylight illumination in respect of permitting continuous working with a minimum loss of eye efficiency. It is claimed that the nearest approach to good daylight is the illumination obtained from B.T.H. "Eye-Rest" fittings, when scientifically installed as a lighting system. This system, then, has been fitted throughout West African House, Kingsway, including the ground floor recruiting office, to the extent of about 120 "Eye-Rest" fittings. Part of the ground floor is occupied by Martin's Bank, and here oxidised silver metal fittings are employed for special æsthetic reasons. Other offices are those of Messrs. Millers, Ltd., and everywhere the requirements of efficient working and supervision are met by the lighting.

The wiring of West African House was already installed before the details of the illuminating scheme had been decided on. Unfortunately it had been arranged so that all the lights in each room were controlled by a single switch. To overcome the inflexibility thus imposed on the wiring system, an interesting innovation has been made by providing a three-way pull-chain switch in each lighting bowl where required. The pull-chain, which constitutes a perfectly unobjectionable addition to the fitting, permits of extinguishing all the lamps in a bowl, or of two gradations of light, as may be desired.

ENQUIRY ANSWERED.

Safe Load on Floor Carried on Arches.

STATICS (York) writes: "Kindly say what would be considered the safe floor load upon a floor carried on arching over a brook, as shown by the accompanying sketch [not reproduced]."

—The information supplied is insufficient to enable a complete and reliable answer to be given. An important omission is the depth from floor line to extrados of arch. The kind of stone of which the arch is constructed is not named, nor whether the external load is distributed or localised. Assuming probable conditions, the compression on the arch ring with no external load is about $1\frac{1}{2}$ tons per sq. ft.; and taking six tons per sq. ft. as maximum safe stress, an external distributed load of 9 cwt. per ft. super may be allowed.

HENRY ADAMS.

Army Post Office in Regent's Park.

A new Army temporary post-office, occupying an area of about 160,000 sq. ft., is being erected in Regent's Park. Its purpose is to accommodate the parcels and letters for troops at the front, especially the Christmas presents. Five hundred men are employed on the building, and they are working day and night in order that the building may be completed by December 1. The cost will be about £60,000.

PUBLISHER'S ANNOUNCEMENT.

THE question of the cost of Advertising is governed entirely by the circulation of a publication. The prices for small Advertisements enumerated below are framed upon the lowest possible basis in order to allow the use of the columns of the Journal for "Wants," &c., at a figure well within the reach of everyone.

Advertisers are purchasing the circulation of a paper in buying space for their announcements, and we are able to announce that "The Weekly Nett Sale of The Architects' and Builders' Journal is larger than that of any other Architectural Journal."

Appointments Wanted.

4 lines (about 28 words) 1s. 6d.; 3 insertions, 3s.

ADVERTISER seeks engagement in builder's office; well up in all building works and office routine; over military age; active and reliable; can give first-class references.—James, 221, Brockley Road, S.E.

ARCHITECT'S Assistant; ten years London experience; domestic work and country house restoration, flats and chambers, business and office premises, picture theatres. competition drawings; 50s.; London only.—Box 698.

BUILDER'S General Foreman disengaged; energetic man; practical in all trades; used to keen competitive work; new or alterations; distance no object; trade, bricklayer.—E. B., 70, Norbury Road, Thornton Heath, Surrey. 696

BUILDER'S, Contractor's, Decorator's Clerk and Assistant desires re-engagement; town or country; thoroughly experienced; jobbing and day work, accounts, prime cost, ledgers, wages, cash (including West-End); abstainer.—B., 82, Park Street, Camden Town, N.W.

BUILDER'S Clerk, good references, wishes situation; book-keeper, set of books, prime costs, joinery works; several years' experience. Apply M., 1, Church Lane Willesden, N.W.

BUILDER'S General Foreman; disengaged; competent to accept any position where a sound, practical, and theoretical knowledge of modern building is essential, or applicable; life abstainer; high credentials, and excellent testimonials.—J. C. S., 32, Leswin Road, Stoke Newington, N. 697

EXPERIENCED Architectural Assistant, beyond war service age, desires an engagement in London.—Address T. C. Y., 56, Addison Mansions, Blythe Road, Kensington, W.

FOREMAN or Overseer seeks berth; thoroughly competent; above military age; life experience in all branches of the building trades; good manager of men; free at once.—Box 692.

FIBROUS and Solid Plastering.—Manager of one of the largest firms in England desires change; thoroughly capable of managing and controlling large staff and showing good results; good London, Provincial, and Continental connection and experience; also experienced in reinforced concrete work.—Box 657.

MANAGING Foreman or Clerk of Works seeks re-engagement; first-class references; age 50; twelve years with previous employer (Hampshire); London experience.—E. J. Masters, 25, West Hill, Winchester.

MIDDLE-AGED Man offers his services to Architect or Contractor during war; thirty years foreman and clerk of works; wide experience in all branches; draughtsman.—N., 16, Copeland Road, Walthamstow.

THE Association of Builders' Foremen and Clerk of Works, 56, Old Bailey, E.C.—Experienced Foremen and Clerks of Works can be obtained by applying to the Secretary, Mr. J. W. Sawyer, 214, Clapham Road, S.W. Competent foremen and clerks of works are invited to join this Association.

Appointments Vacant.

6d. per line.

ARCHITECTS' WAR COMMITTEE.

The Professional Employment Committee have under consideration certain schemes of work with a view to affording small temporary employment to architects who are without work in consequence of the war. Applications can only be considered from British architects dependent on their profession for a living, whose present difficulties are directly due to the war, and who are not eligible for military service. Applications should, in the first instance, be made to the Hon. Secretary of the Professional Employment Committee of the Architects' War Committee, 28, Bedford Square, W.C.

MESSRS. TROLLOPE & COLLS require the assistance of anyone competent to take the place of members of their clerical staff who have volunteered for service with His Majesty's Forces.—Apply to 5, Coleman Street, E.C.

Miscellaneous.

6d. per line.

TYPEWRITING; architects' and builders' specifications, etc.; testimonials and soldiers' letters copied; prompt, cheap, and accurate; send for price list.—Address, "Typist," Type-writing Office, 65, Marsham Street, Westminster. 700

SECOND-HAND Optical Mart

For the Purchase and Sale of LEVELS, THEODOLITES, DRAWING INSTRS.—Clarkson's, 338, High Holborn, London, W.C. (Opposite Gray's Inn Road).

TO ARCHITECTS COMPETING. SCHEMES & ESTIMATES FOR ENGINEERING WORK.

(Lighting, Heating, Ventilation, and Sanitation), and Architectural Metal Work, supplied free of charge of **STRODE & Co., Ltd.**, 48, Osnaburgh Street, London, N.W., and 18, Easy Row, Birmingham.

BOOKS.—Books on Building Trades, Engineering, Educational, Literary, Technical, and all other subjects; second-hand at half prices; new at 25 per cent. discount; catalogue free; state wants; books sent on approval; books bought; best prices given.—W. and G. Foyle, 121-123, Charing Cross Road, London, W.C.

SPRUCE Timber, 400 Standards, at Neyland, Pembrokeshire, and Bristol, all sizes. Prices on application for any quantity, any size, where it lies or delivered any station. Windows (glazed or unglazed), and doors in stock for military huts.—**JENNINGS & CO.**, Timber Importers, General Woodworkers, 981, Pennywell Road, Bristol.

POLING boards, selected length and thicknesses, best quality and full measure, also scaffold boards, putlogs, scantlings, deals, batten and boards; lowest wharf prices.—C. H. Glover and Co., Ltd., Importers, Hatcham Saw Mills, Old Kent Road, S.E.

OIL ENGINE wanted, 6 to 10 h.p., condition guaranteed, or steam engine and boiler; also circular saw, or general joiner, state make, price, and full particulars to Arthur Lloyd, 46, Mandeville Street, Walton, Liverpool. 704

Contract Open.

9d. per line.

JOINERS desirous of tendering for doors, windows, and interior joinery in connection with large housing contract in the Midlands are invited to apply at once to Box 701.

BRICK WORKS, TILE MANUFACTURERS, etc., are invited to quote lowest prices and send particulars of stocks of flooring quarries, roofing, tiles, firebricks, copings, sinks, sanitary pipes, etc., for large housing contract in Midlands.—Box 702.

STONE QUARRY PROPRIETORS are invited to quote lowest price for flags, kerbs, etc., required for large housing contract in the Midlands.—Box 703.

TO BUILDERS.

The Metropolitan Asylums Board invite Tenders for Extension of Washing Shed and other Sundry Works at the Mead Ambulance Station, Carnwath Road, Fulham, S.W., in accordance with drawing and specification prepared by Mr. W. T. Hatch, M.Inst.C.E., M.I.Mech.E., Engineer-in-Chief. The drawing, specification, and form of Tender may be inspected at the Office of the Board, Embankment, E.C., on and after Ten a.m. on November 22, and can then be obtained upon payment of £1. The amount of the deposit will be returned only after the receipt of a bona-fide Tender sent in accordance with the instructions on the form of Tender and after the specification and drawing have been returned. Tenders, addressed as noted on the forms, must be delivered at the Office of the Board not later than 2.30 p.m. on Wednesday, December 1, 1915. (By Order) T. DUNCOMBE MANN, Clerk to the Board. November 17, 1915.

Educational Announcements.

6d. per line.

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Note.—Before deciding upon any system of tuition, an intending candidate is invited to communicate with Mr. Neill (who, in addition to many other qualifications, is a Medal Honoursman, Prizeman, and Head of the Department of Building at the Leeds Technical School).

The 6 and 18 months' S.I. Courses commence in September. Past successes include: Penfold Silver Medal, Building Prize, D. Prize, and the Irish Special Prize.

Auction Sales.

9d. per line.

In Bankruptcy.—Re S. Butterfield.—By C. of the Trustee.

GOFFS OAK, GUFFLEY, HERTS. **MR. H. W. SMITH** will SELL by AUCTION THE NURSERY, Newgate Street Road, Oak, near Cuffley, Herts (G.N. Rly.) **WEDNESDAY, DECEMBER 1, 1915, at TWO o'clock precisely.**

The whole of the valuable new LEEDS NURSERY MATERIALS, comprising 3,400 of new 4-in. h.w. pipes, g.m. steam destructible valves, 4-in. slot throttle and phragm valves, elbows, single and double crosses, d.t. boss pipes, two open tanks, hinges and sockets, greenhouse locks, lat screws, nails, Stourbridge fire slabs, new d. roof lights, pitch-pine planks, prepared bars, rail, ridge, capping, 40 gallons Farniloe's Impervious paint, 18 cwt. of putty, linseed oil, Stockholm tar, return kegs, and other effects. On view the day before and morning of Sale. Catalogues may be obtained from Messrs. SAKER & DAUGHTER, Chartered Accountants, 95 and 97, Finsbury Pavement, London, E.C.; and at the AUCTIONEER'S OFFICES, 6, Great James Street, Bedford Row, London, W.C.

THE ARCHITECTS' & BUILDERS' JOURNAL.

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AN IMAGINARY PRISON.

(From Piranesi.)

THE ARCHITECTS' & BUILDERS' JOURNAL.

DECEMBER 1, 1915.

TOTHILL STREET, WESTMINSTER.

VOLUME 42. No. 1091.

EDITORIAL.

THERE is certainly no dearth of ideas for the reconstruction of Belgium. Last week we commented upon the bold project of building a memorial city. We now notice that M. Helleputte, the Belgian Minister of Works, in a report on the subject which he has addressed to King Albert, expresses the opinion that "a monument in each district, bearing the names of the soldiers who have died for their country, and of the civilians who have been slaughtered, and a tablet on each building reconstructed, will suffice to recall the past." That seems to be an entirely practicable suggestion; and it is gratifying to see that M. Helleputte pleads very eloquently for the amelioration that should go hand-in-hand with reconstruction. In the face of calamities without precedent, he says in effect, the working people of Belgium have behaved with heroic patience and courage, and he urges that when their normal lives are resumed they shall have the benefit of all the best conditions of hygiene, of transport, and of art in their dwellings and streets. From this and from many similar utterances by Belgium's leading men of affairs, it is evident that the indomitable spirit that has survived the horrors of invasion will conduct reconstruction to happy issues. Much valuable advice and assistance to this end have been given by the Belgian Town-planning Committee in London; and as soon as Brussels is swept clean of the Huns, a central committee, to whom all plans for reconstruction are to be submitted, will take its seat in the capital, and, we may be sure, will set about their work with characteristic Belgian energy and *aplomb*. However bitter the regrets for the occasion of it, there is here a great opportunity, of which our allies may be trusted to take the utmost advantage, æsthetically as well as hygienically.

The lamentable death of Lady Richmond, wife of Sir W. B. Richmond, R.A., lends strong emphasis to the need for dealing drastically with the dangers of the streets. Lady Richmond, who was sixty-nine years old, was apparently in the act of crossing a road in Hammersmith, when, confused by the approach of a tramcar and a motor-car, she attempted to get back to the pathway, and was knocked down by the motorist—a lady—who was travelling at a very slow pace, and who did everything possible to avoid the accident. Lady Richmond, stricken as she was, thought less of her own suffering than of the shock to her husband. "Do not frighten Sir William," she said; "go round and prepare him"—a supreme manifestation of tender solicitude that adds a poignancy to our keen sense of the bereavement that Sir William has sustained.

It requires no great effort of imagination to suppose that, in the new era of peace and progress which is to

compensate the world for the throes of the great upheaval, street accidents will cease to be regarded as inevitable. In his vision of "the city of to-morrow," Mr. R. Burns Dick, F.R.I.B.A., saw, it will be remembered ("Thoughts on War and Peace," on page 23 of our issue for November 24) "the general introduction of underground or double-decked roadways, with the solution of traffic problems combined with safety for the population." Mr. H. G. Wells, in his more romantic way, has made a somewhat similar forecast, and that of us who are but just too old for war service may live to see the realisation of these intelligent anticipations. Meanwhile, high-speed traffic exacts a terrible toll, and before it can be relegated to subway streets such temporary expedients as subway crossings should be increased in spite of the feeling that they contribute but little towards the solution of the traffic problem. Those already constructed have enormously reduced the maiming and mortality at certain points of danger, such as the Blackfriars "Slaughter Corner," as it used to be called, and the complicated intersection of highways and by-ways in the Mansion House and Bank of England area.

Subways are greatly needed, for example, at the extraordinary tangle of streets which make a veritable danger zone in the region of Trafalgar Square. A young Canadian soldier on crutches, whom we had the privilege of helping across from the Strand to the Nelson Monument, said that, coming from "out West" and being unused to streets, he would rather crawl through the trenches under fire ("And," he said, with a smile, "I've had some, as you see") than hazard such a crossing as this. It is indeed a nervy business, especially for those who are accustomed to it. Street refugees, a term eloquent of imminent calamity—are a part of the sort of remedy. Aged ladies marooned on the islands amid a roaring sea of traffic, grow visibly older and more infirm, and vastly more irresolute. For the sake of the old and infirm, and for the greater safety of people having children in charge, more subterranean passages should be constructed. But such works are so extremely expensive that to clamour for them in war-time would be vain and foolish, even if one adduced the too specious plea that they would afford an excellent cover from hostile aircraft!

It is announced that next session Parliament will be asked to authorise the South-Eastern and Chatham and Dover Railway Companies to alter and strengthen the Charing Cross railway bridge. Those enthusiasts for town-planning who advocate the removal of the terminus to the other side of the river see thus "their fondest hopes decay." Although, if memory serve faithfully, so practical-minded a visionary as Mr. J.

is (himself a paradox) was strongly in favour of glorification of the Surrey side, most Londoners, certain, regard the Charing Cross terminus as indispensable: it disputes Boston's claim to be the hub of the universe. Charing Cross station being a "constant," the widening of the bridge that connects it with the southern side was inevitable. Since it was, in 1863, the traffic across it has increased so enormously as to have become seriously embarrassing. The most urgent necessity could have induced the railway companies to put forward in war-time their case for alteration and strengthening. It is not supposed that they contemplate doing the work immediately. No doubt they are merely taking time to see their forelock, and their enterprise in promoting the work is an encouraging indication that they are not joining those pessimists who think that the war will last for ever and a day.

It is unimaginable that in altering and strengthening the Charing Cross bridge the companies will mitigate the excruciating hideousness that has made Hawkwood's purely engineering design a byword. The Grosvenor suspension bridge, which, built in 1846 for passengers only, was removed to make way for it, was sold for £85,000 and removed to Clifton, near Bristol, was by comparison beautiful. The lattice girders of the Charing Cross bridge are carried by six piers and two brick piers, forming eight spans, twenty feet wide. In 1878 the footway was purchased by the Metropolitan Board of Works for the use of the public. But for the unpropitious time, it would be a civic duty to oppose the companies' Bill, with the object of securing a less unsightly structure than that which for more than half a century has desecrated the river.

A farcical effort at economy has arisen with respect to the London County Council's regulations for reinforced concrete construction. It is the custom to advertise such matter in the "London Gazette," but as the Government has been so insistent upon municipal economy, the Council suggested that the Local Government Board might in the present instance waive the rule, and thus save the Council £180. This view of economy did not, however, commend itself to the Council, who insisted upon publication. With a "legal mind" exceeding that of John Gilpin, the Council then sought to save a few pounds on the transaction by lending the "Gazette" the formes of type which the rules had been already printed, but the Stationery Office blocked the way, and the Council must now be bitterly regretting their futile economy upon the stamps and paper consumed in their constant assault on the forces of red tape, which they have known to be invincible. But they can console themselves with the credit and renown of a magnificent essay in municipal economy that almost defies the splendour of the refusal by a merely urban council to issue any more fiction from their library. A very few more frantic essays like these will suffice to bring economy into general disrepute. The Council hardly knows which attitude most irresistibly attracts our admiration—that of the Government in its treatments remorselessly exacting their pound of flesh, or that of the Council so reluctantly parting with it. Certainly one should feel uncommonly grateful for this slight measure of comic relief to the tension of the great war tragedy.

Commenting upon an exhibition of small works by small sculptors (the object being to form a fund for the assistance of sculptors who have suffered by the war) a writer in one of the daily newspapers observes "no money is spent now on public monuments,

and very little on smaller works of sculpture. Yet the sculptor must live; and if he is too old to fight he is probably too old to take up any other trade." Even if he were not too old, he would, as a general rule, probably find that the artistic temperament rendered him too shy or too proud to apply himself to any kind of trade. He is, as a rule, utterly disqualified for personal "hustling," and, like other professional men, he may not advertise. It is to be feared that exhibitions will not greatly help him. There is far more hope from the emergency associations that ascertain the professional man's needs and qualifications, and try every means of bringing him into touch with the work he can do. Some of these clearing-houses for talent (to call them super-labour-exchanges might wound tender susceptibilities) that have arisen from circumstances created by the war might with all-round advantage develop into permanent institutions. It would then appear that, even in prosperous times, there are plenty of artists—architects as well as sculptors and painters—able and willing to invest with grace and charm much of the small work that has been hitherto left to the comparatively unskilled and wholly uninspired mechanic. As a correspondent reminded us last week, small memorials and headstones are a case in point.

Responsibility for reparation of the damage done to property by hostile aircraft is still a vexed question, and one in which architects and builders, as well as property owners and tenants, are keenly interested. Legal opinion as to whether the property owner is to suffer the damage, or whether the liability falls on the tenant holding a repairing lease, seems to be about equally divided. A Government attempt to cut the Gordian knot by instituting an insurance scheme does not determine this nice point, but has provoked the formation of a Committee on War Damage, which has for the main plank in its platform the demand that the Government scheme should be abandoned in favour of "an Act for compensating all citizens who may be injured in body and estate by action of the enemy." Of course the principle embodied in the Riot (Damage) Act, 1886, is cited as a precedent, and it is difficult to withhold agreement from the contention that persons paying taxes primarily for the purpose of protection against foreign enemies have a strong moral claim to compensation for injuries inflicted by the foe. Mr. Mark H. Judge, A.R.I.B.A., is chairman of the executive committee, and the hon. secretary is Mr. W. H. Southon, 115a, Chancery Lane, W.C.

At what was called a "business luncheon" of the British Association of Trade and Technical Journals, held at the Trocadero Restaurant, Sir Albert Spicer, Bart., M.P., threw out some most interesting suggestions on the need for closer co-operation among the business firms of this country. He holds that we should make all our organisations much more complete, "so that we can help each other in matters that are really of common interest to us all, without interfering with the individual firms or the competition that must exist between different firms." That is really the crux of the matter—how to combine without coalescing or forming rings and trusts. As instances of the kind of co-operation that would not injure healthy competition, Sir Albert mentioned opposition to excessive shipping and railway freights, and promotion of more centralised systems of technical and professional education. As we have constantly advocated these reforms, we are specially glad of Sir Albert's powerful support; he being an influential member of the Advisory Committee on Commercial Intelligence to the Board of Trade. Commercial intelligence, in both senses of the phrase, is the crying need of the present situation.

HERE AND THERE.

ON Wednesday night Ctesiphon was as meaningless to us as Abracadabra. But on Thursday morning, with the message from the Secretary of State for India announcing that the Turkish position there had been captured by General Townshend's Division, Ctesiphon, being close to Bagdad, became a place of great significance. The sub-editor dipped into a reference book, and told us that Ctesiphon, though now only a large village, was in ancient times a town of many splendid buildings, one gigantic brick ruin remaining as the sole indication of the splendour that has crumbled away since the Sassanian king created it in the sixth century of our era. It is worth while, as a matter of topical interest, to say a little more of the palace of Ctesiphon, more particularly as regards the system of building adopted for this great brick construction, and the character of its architectural decoration. The ruin of it stands high on the banks of the Tigris, its chief feature a portal leading into what must have been a magnificent hall, the Throne Room, covered by a vault which rises 95 ft. to the crown. In this vault, instead of a plain circular arch, the architect adopted an elliptical form. Fergusson says he attempted "a section of one of his domes, hoping thus to avoid some, at least, of the lateral thrust—to obtain, in short, by an ellipse what the Gothic architects managed by the pointed arch." But it is the fate of Fergusson to say interesting dogmatic things which other people promptly question, and so we are not surprised to find a greater authority, Mr. R. Phené Spiers, in "Architecture, East and West," qualifying Fergusson's statement. "The thrust," he says, "exerted by a barrel vault is so different from that of a dome that it is scarcely likely the idea was taken from the latter. Besides, the Sassanian architect never saw the section of his domes; they were not drawn out on paper as with us." Probably there were



THE GREAT VAULT OF THE PALACE OF CTESIPHON.

two reasons for the adoption of the elliptical vault: first, because the slightly sloping lines of the lower portion enabled horizontal courses to be laid, and secondly, because it diminished the span to be vaulted. By this method not only was an enormous centering saved by the lessening in width, but the thrust of the portion arched with voussoirs was thus brought well within the thickness of the supporting walls. The real arched construction at Ctesiphon begins about 67 ft. from the ground. This is the most interesting fact about the vault, and it suggests that element of adventure in architecture which distinguishes all great builders. As regards the architectural embellishment of the palace at Ctesiphon, it is to be noted that the exterior wall face on each side of the great arch has pilaster strips in the form of engaged columns, between which are arched openings and arched panels arranged in long arcades, and also in couples and in groups of three. These, in their combination with the arched doorways of the ground floor, being, as Mr. Russell Sturgis points out, almost exactly the architectural features that are applied on the front of French Romanesque churches, like Poitiers and Angoulême. Even the columns of the internal arcades are Romanesque in character: all of which serves to indicate what strange repetitions occur in architectural development. There is Egyptian wall decoration that suggests the careful work of the Ptolemaic Raphaeletes, and I have seen illustrations of Gothic chairs from Knossos: and now we have the counterpart of French Romanesque in Persia!

Those letters from the Front tell us of a topsy-turvy world—sing-songs in barns where the snipe bullets still persist, merry marching on the road through the trenches, fierce fighting, deeds of glory; and some of our soldier correspondents tell us of what they have seen of destroyed towns and villages. Here is such a glimpse in a letter from Mr. G. Howling, a former colleague on the editorial staff of this Journal. Writing from "somewhere on Gallipoli Peninsular," he says: "There is nothing but architecture here. All buildings have been practically knocked to pieces. The village of Krithia, which I have had a squint at through a periscope, has scarcely two walls standing together." So much for Krithia. Possibly an architectural conscription among the Turks may grieve for it; we shall not have greater destruction, Reims and Louvain, remember; and before this War is ended we hope to include some well-known German names in the list of places where the guns have blown architecture to bits.

To Bacon's essays we must add a fresh chapter, "War Architecture"; and the new essayist might well take for basis the following impressions of a visit to Reims by a special correspondent of the *Century*: "The living accommodation at advanced headquarters strikes one as a mixture of yacht, London tube railway, and coal mine. Electric light and a little engine to generate it; different compartments, one for the doctor, with a dispensary and operating-room, a salle-à-manger, officers' room and bedrooms fitted like a steamer berth, an observation tower, and a large bell from the church to sound the alarm when asphyxiating gas attacks are imminent. The headquarters are, of course, underground, and are rendered shell-proof by means of iron plates and mounds of earth. The front opens on a garden, with apple and pear trees, a grotto, a cat curled up in a comfortable chair, a statue of Joan of Arc, and some beautiful chrysanthemums." The picture is complete.

UBIQUE.

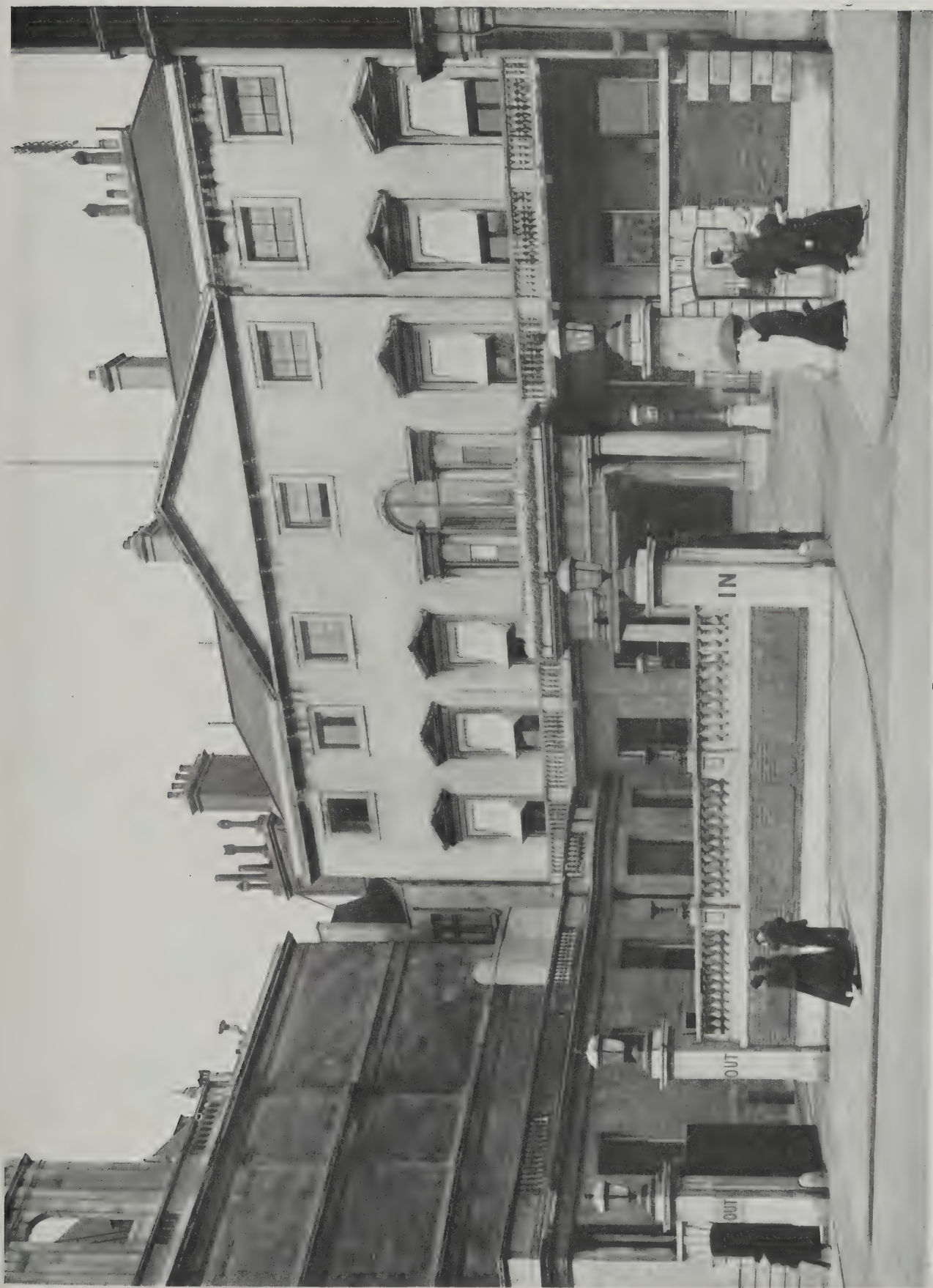
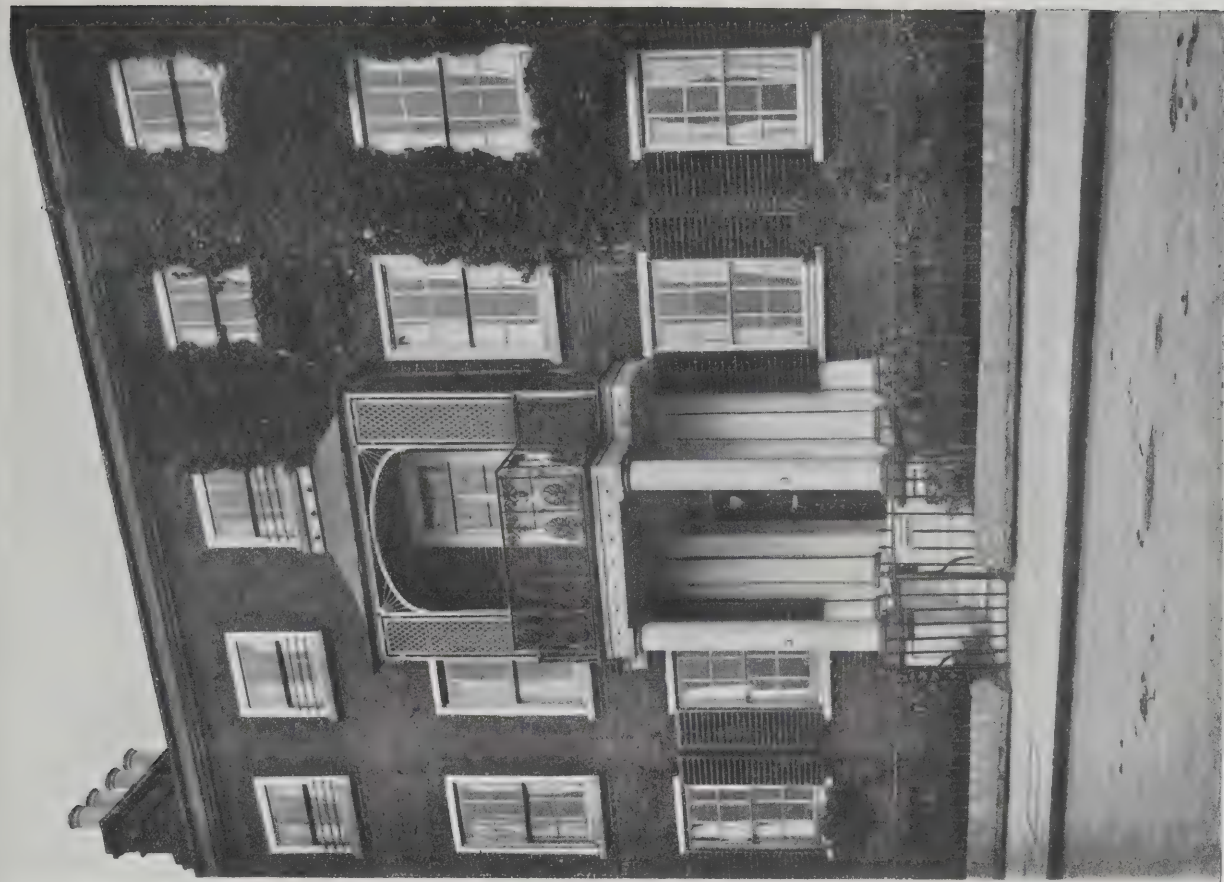


Photo: Bedford Lemere & Co.

LONDON FAÇADES. III.—NAVAL AND MILITARY CLUB, PICCADILLY.



House on The Terrace, Barnes.

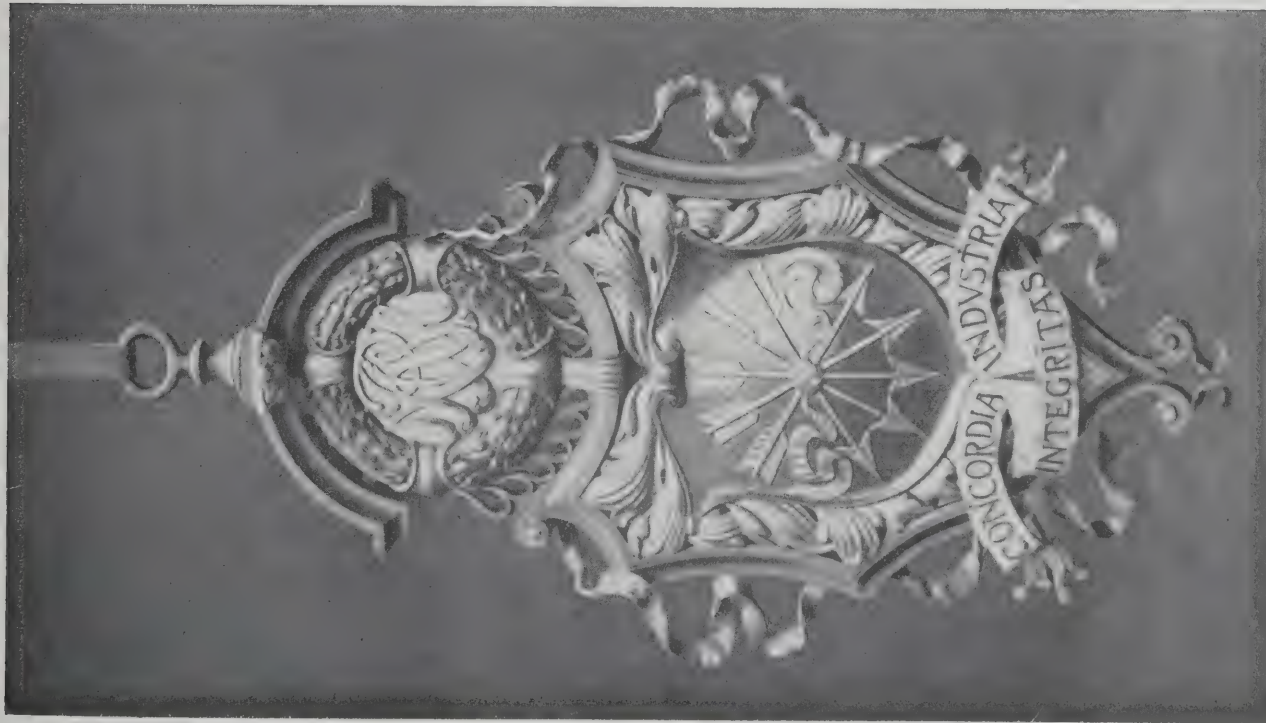


Elm House, Henley.

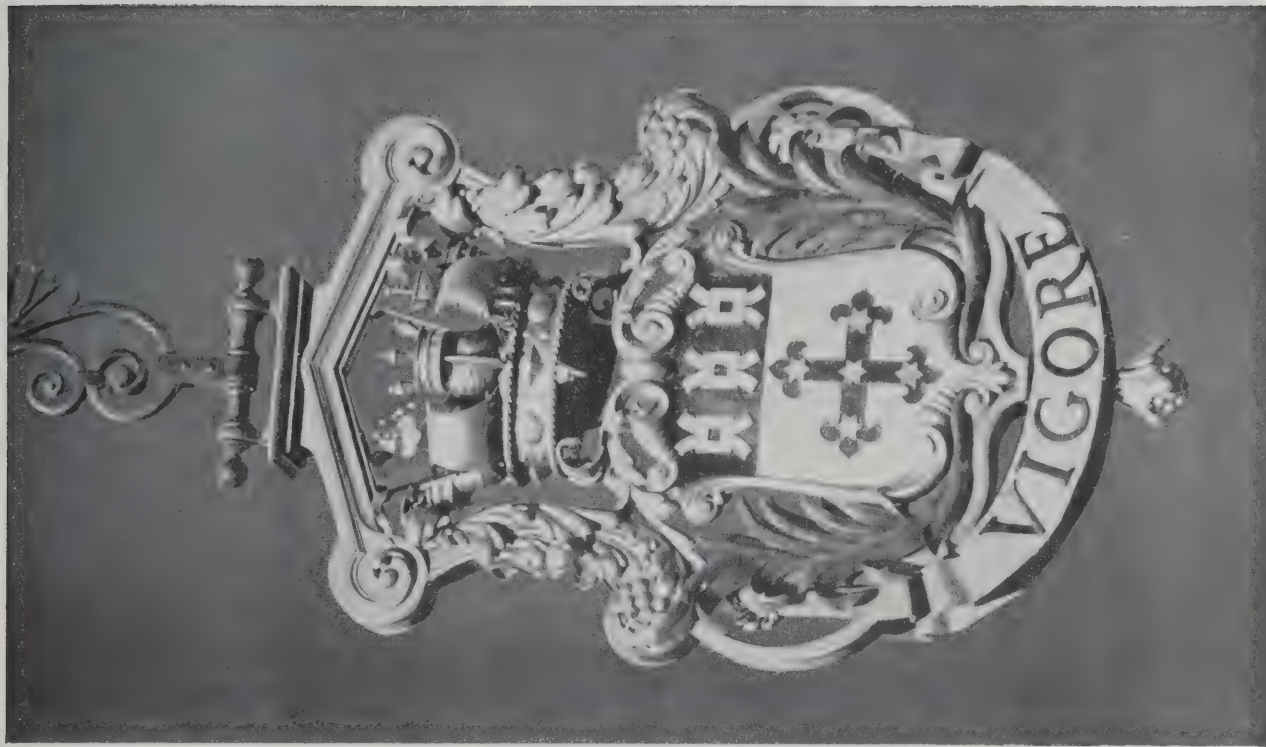
SMALL HOUSES OF THE LATE GEORGIAN PERIOD (SERIES II.).—XII.

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On Lord Rothschild's Offices, New Court, St. Swithin's Lane, London, E.C.



On Vickers House, Broadway, Westminster.

DETAILS OF CRAFTSMANSHIP. XLII.—TWO HERALDIC SIGNS.

WRATTEN AND GODFREY, ARCHITECTS.



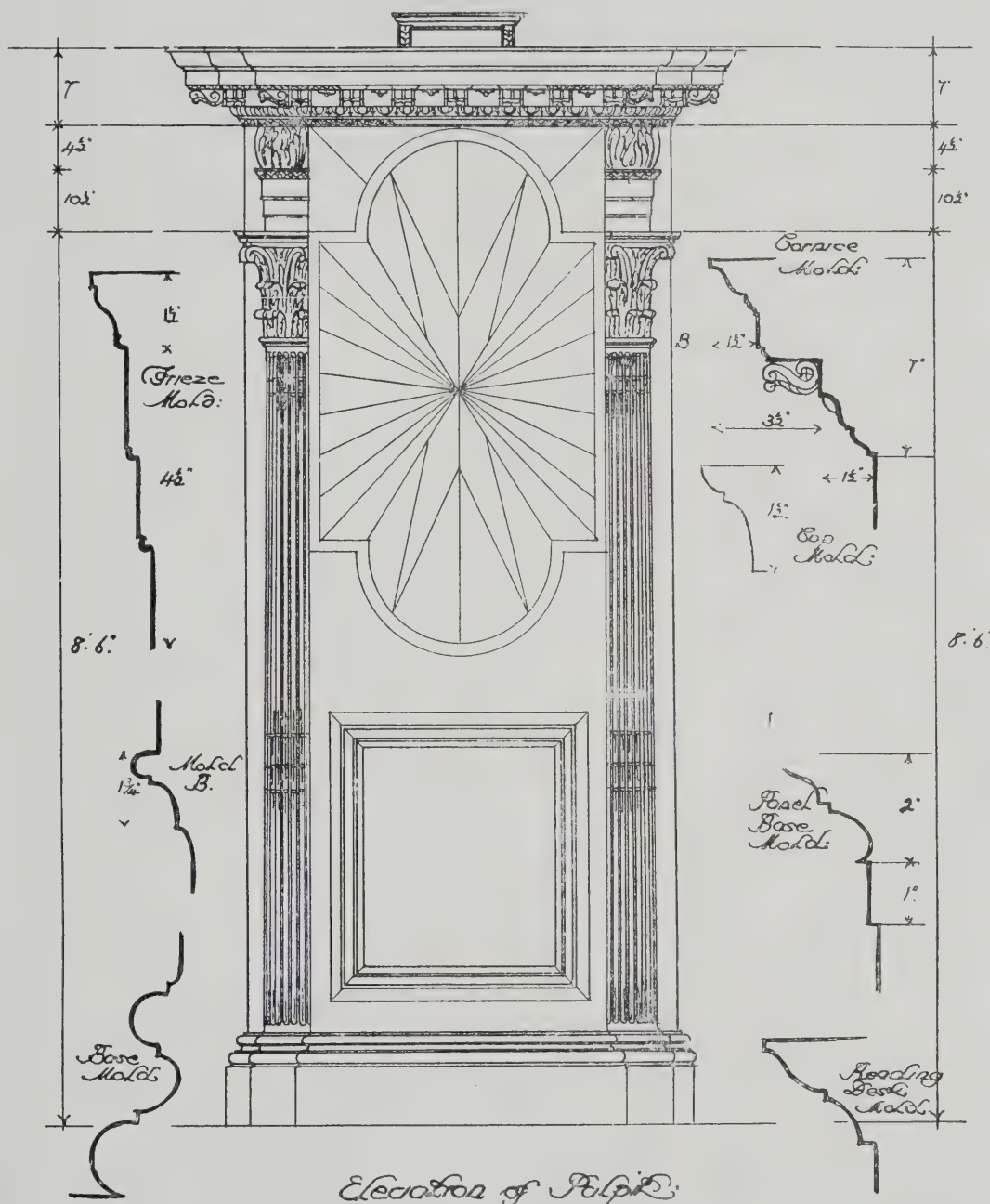
MONUMENTS. III.—BOY SCOUTS' MEMORIAL, NUNHEAD CEMETERY.

Photo: Cyril Ellis.

G. GILBERT SCOTT, F.R.I.B.A., ARCHITECT.

*Pulpit in St Ann's Church:
Manchester:*

Measured ^{2:6"} Sketch



Election of Pulpit

Citizens and People said
 to be answered by a
 People of Sir. G. Moore

Measured & Plotted on the Spot.

Gordon Hemm 1918 MS.

Side of Pulpit, above 1762
Constructed in Oak, is
now sunk below the floor
of the Church level some
3' 0" into a trench.



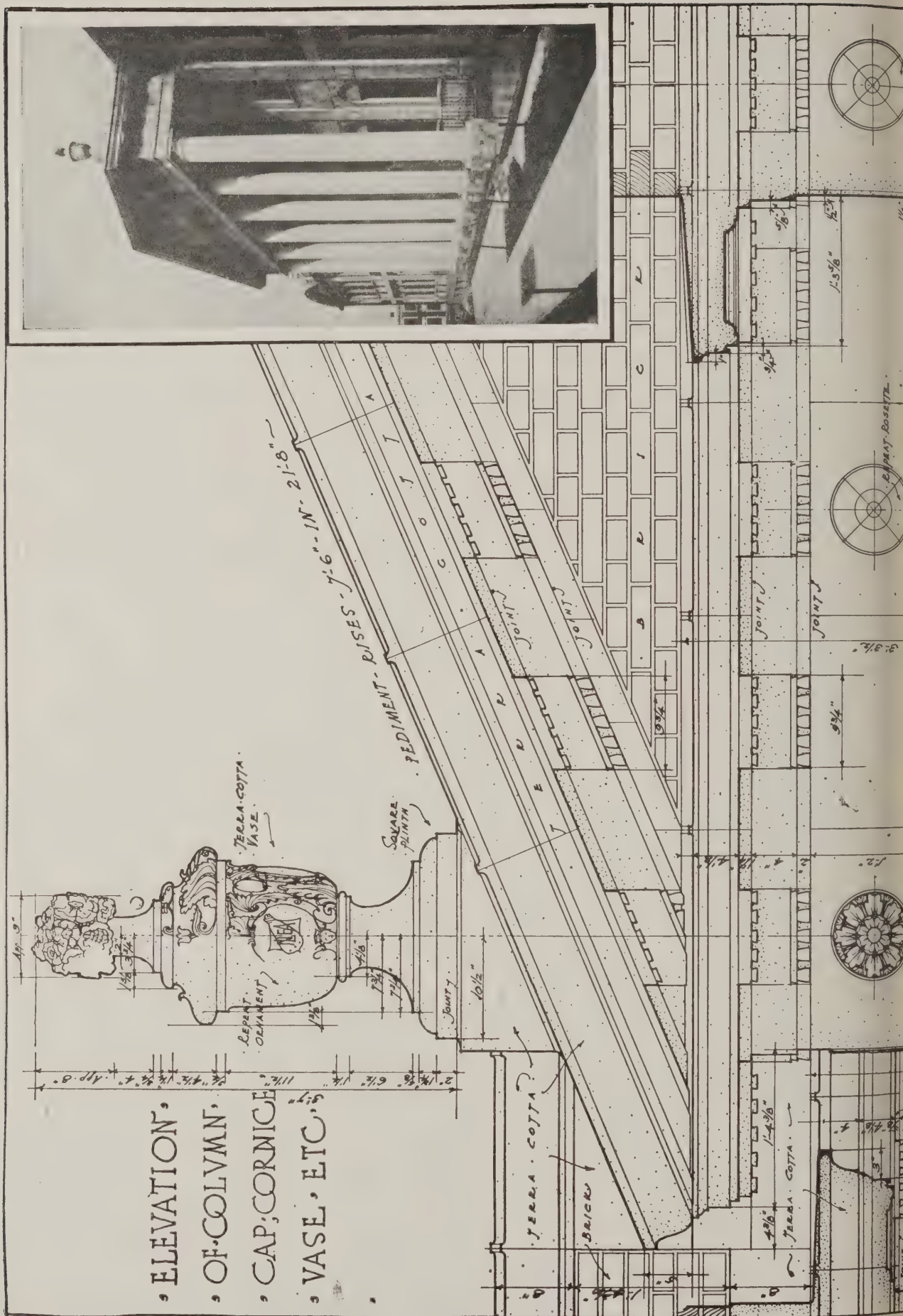
MODERN AMERICAN ARCHITECTURE. XXVI.—ENTRANCE TO COMMONWEALTH TRUST BUILDING. NEW YORK.

PARKER, THOMAS AND RICE, ARCHITECTS.

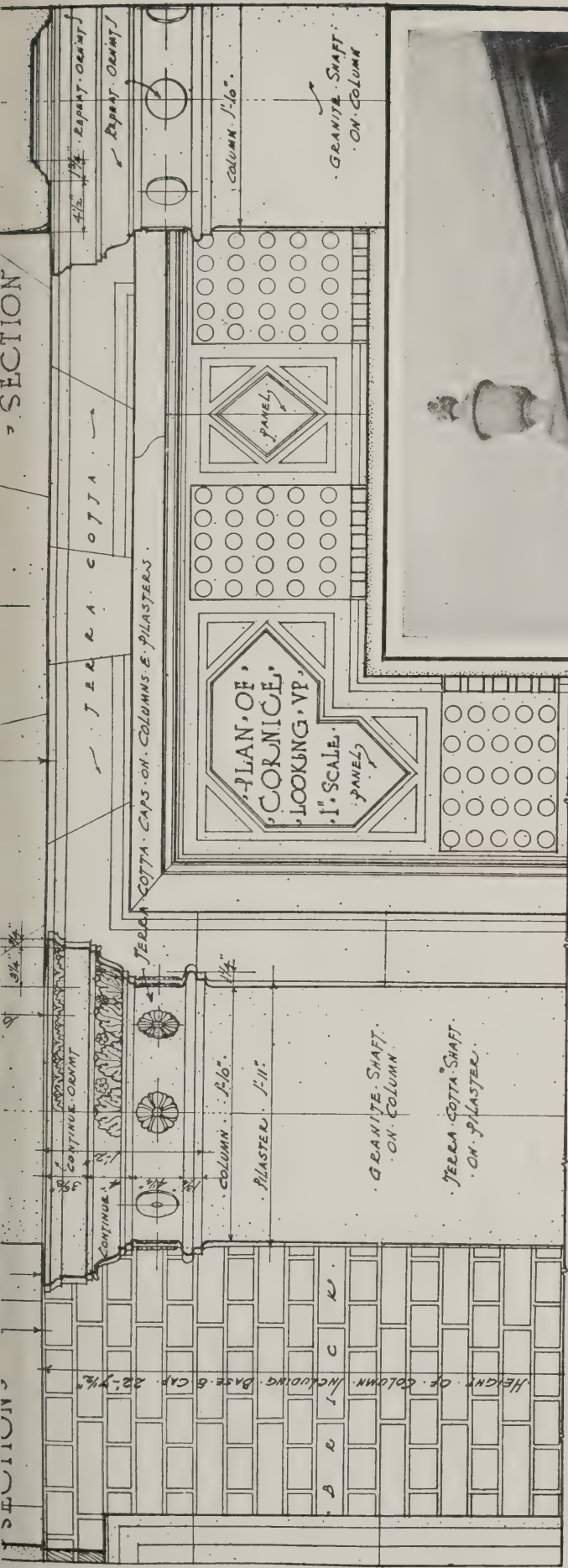
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NOTES



NOTE ~
 PORTICO OF SIX COLS.
 COLUMNS SPACED THUSLY:
 CENTER BAY 8'-0" O.C.
 SIDE BAYS 7'-8" O.C.
 END BAYS 7'-4" O.C.
 COLUMNS PROJECT 7'-6"
 FROM WALL (OUTSIDE) ~

ELEVATION, AT, COLUMN, BASE,

BLUESTONE.

Steps.

BLUE STONE.

ARCHITECTS' WORKING DRAWINGS (SERIES II.). XIX.—PORTICO TO SALES BUILDING, CLEVELAND, OHIO, U.S.A.
WALLIS AND GOODWILLIE, ARCHITECTS.

THE PLATES.

Naval and Military Club, Piccadilly.

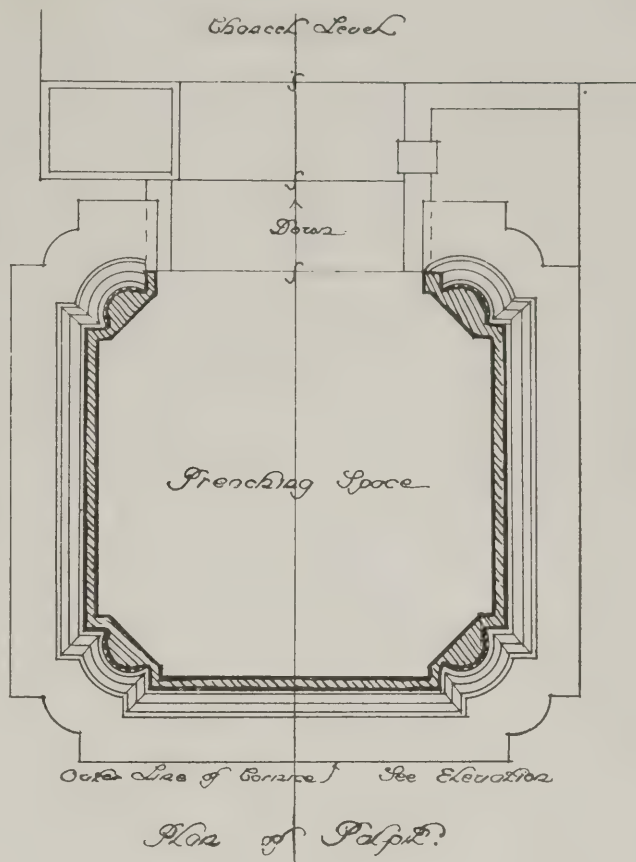
THIS was originally Cambridge House. We have not been able to determine who was the architect, but it is evidently the work of one of the young men of the second half of the eighteenth century. It was formerly the residence of Lord Nerston. Despite the changes in ownership, the house retains its form intact, though we suspect the porch is a later addition. The interior has been altered otherwise. In 1877-8 it was rearranged and adapted to serve the purposes of the Naval and Military Club, and there have been other more recent alterations; the nett result of which is, that the greater part of the old work has largely disappeared.

Houses of the Late Georgian Period.

These appear to be about very much the same—the very end of the eighteenth century. Both show evidence of a coming Greek manner in details—Doric pillars of the porch to Elm House, and the semicircular ornament in the window balcony on the terrace at Barnes—but both alike retain the sweetness of character which distinguishes Georgian domestic architecture.

Two Heraldic Signs.

The illustrations show (1) a sign erected over the entrance to the offices of Messrs. N. M. Rothschild Sons, at New Court, St. Swithin's Lane, E.C., bearing the Rothschild badge and motto, and (2) a



PULPIT IN ST. ANN'S CHURCH, MANCHESTER.

sign for Messrs. Vickers, Ltd., erected on Vickers House, Broadway, Westminster, bearing the Vickers arms and motto, surmounted by a V enclosed by the naval crown. The policy of the London County Council in discouraging signs, and in enforcing restrictions which often ruin their artistic value, is to be deplored. Signs like these are piquant and vivacious in character, and they serve to indicate the value of heraldic colour when used for such purposes in London streets. The two signs were designed by Messrs. Wratten and Godfrey, of Westminster, and executed by Messrs. W. Bainbridge Reynolds, Ltd.

Boy Scouts' Memorial, Nunhead Cemetery.

The memorial is of white marble, the figure, wreaths and inscription tablet being in bronze. It marks the grave of the boys drowned in the boating disaster which occurred two or three years ago off Leysdown. Mr. Gilbert Scott, F.R.I.B.A., was the architect. The model for the figure was prepared by Miss Reed, of Chelsea.

Pulpit in St. Ann's, Manchester.

This is one of the finest pulpits of the Renaissance period in Lancashire. It is said to have been designed by a pupil of Sir Christopher Wren between 1710 and 1720. The pulpit is of oak. It is square on plan, with recessed angles, and fluted quarter Corinthian columns inserted into the splays.

Entrance to Commonwealth Trust Building, New York.

This is a very characteristic example of an entrance to one of the large new bank buildings in America. Messrs. Parker, Thomas and Rice were the architects.

Portico to Sales Building, Cleveland.

We take this illustration from our contemporary, "Architecture." The drawing is by Mr. Walter McQuade.



ENTRANCE TO ROTHSCHILD BUILDING, NEW COURT, SWITHIN'S LANE, E.C., WITH HERALDIC SIGN.

AMERICAN CINEMA THEATRES.

IT is always useful to compare architectural practice in this country with practice abroad. This is especially so in the case of a new type of building like the cinema theatre, and in view of the great developments which have taken place in America, we think it will be interesting to our readers to give the following information from an article by Mr. John J. Klaber in the November issue of the "Architectural Record" of New York:

The growth in popularity of moving-picture entertainments has been one of the most remarkable phenomena of modern life. The regular theatre has suffered greatly from this new form of amusement, and, in addition, a new public has been formed, indifferent to the older drama, or too poor to patronise it, but vastly entertained by the moving picture. To satisfy this demand a great number of buildings have been constructed, or, in many cases, altered, the total number of moving-picture theatres in the United States being now estimated at over twenty thousand, with a daily attendance of more than five million—one in twenty of the total population of the country.

The design of buildings for the exhibition of moving pictures is not a problem of very great difficulty. The auditorium presents few special problems not found in all theatres, and its usually small size and few balconies further simplify the problem. Nevertheless, the design, from an artistic point of view, has usually been of a very low grade, and it is not easy to find examples that rise above mediocrity. The causes of this are obvious enough, the principal ones being the vulgar taste of the great majority of the owners, and their disinclination to pay the commission demanded by a competent architect. The artistic quality of these buildings has been further degraded by certain firms of decorators who specialise in this type of work, and whose designs are characterised by illiterate trashiness. From a mechanical point of view, also, many moving-picture theatres are highly defective, due to lack of attention to the technical features necessary to their construction.

The most important of these is the operating room. Owing to the inflammability of the celluloid films generally used, for which no satisfactory non-inflammable substitute has yet been found, and to the great heat generated by the electric arc which is universally used for projection, the problem of fire protection becomes one of the greatest importance. It is essential, not only to prevent fire from spreading to the auditorium, but to avoid a possible panic, which might easily be caused by the sight of smoke or flames issuing from the operating room. To this end a special type of construction has been evolved, and its use, now becoming more

general, overcomes the dangers produced by earlier conditions.

The Operating Room.

The room should be constructed throughout of brick, terra-cotta blocks, or reinforced concrete. The last, because of its monolithic character, is perhaps to be preferred, although its weight renders its use impossible in many cases. The walls, floor and ceiling of the room should all be fireproof, and in no case less than 4 in. thick, and the roof should be supported so as to resist any internal fire that might occur. It is also essential that the floor be very rigid, as any vibration of the projector is greatly magnified on the screen. Where such a masonry construction is impossible, because of its weight, asbestos boards on a frame of angle irons are often used. This construction is less desirable, but if carefully executed with good materials is far preferable to any method involving the use of wood or other combustible material. If the room is built on top of an existing wood floor, this should be thoroughly protected, asbestos board being generally used for the purpose.

The size of the room should be sufficient to allow the convenient working of the projectors, as the operator, if cramped, cannot produce good results. The height should be at least 7 ft., the depth from front to rear 8 ft., and the width 6 ft. for a single machine, and at least 3 ft. more for each additional one. These are minimum sizes, and may be advantageously increased when the available space permits. It is also advantageous to add a fireproof storage closet for films and supplies, and an extra room for rewinding and repairs; in some localities this is required by law. In any case, the rewinding bench should be constructed entirely of incombustible material.

The operating room should be well ventilated. The best method, where it is permitted, is to have inlets near the floor of the room, with a large vent pipe in the ceiling, leading directly to the outer air. If the inlets can also lead to the outside, this is decidedly preferable to taking air from the auditorium, where it is more or less vitiated, particularly as the operating room is usually placed near the ceiling. The National Board of Censorship recommends 180 sq. in. of inlet openings for a single machine, and 30 sq. in. additional for each other, with an exhaust of 60 cub. ft. per minute for one machine and 30 for each additional one. A fan is generally used for the exhaust, but if the vent pipe is sufficiently large—about 2 sq. ft. of area—it may be dispensed with, unless required by law. The omission of the fan is advantageous, as, if it is out of order, its blades present a considerable obstruction to the free circulation of air.

The vent pipe should be provided with

a damper, opening automatically in case of fire, and all other openings in the room should be provided with self-closing doors or shutters, so that if a fire occurs the exhaust of the vent pipe will prevent any smoke from passing into the auditorium. There should be but one door out of the room, and this should be a self-closing door, 6 ft. by 2 ft. It may be of iron or tin-clad wood, constructed according to the specifications of the National Board of Fire Underwriters. The openings include the lens holes and look-outs, one for each machine. The holes should preferably be cut after the machines are in place, as the necessary size and height varies with different machines. They should be large enough to clear the rays of light issuing from the lens, and a conical form is usually best for this reason. The size will depend on the distance of the lens from the wall, a round hole being sometimes sufficient. The stereopticon, having two lenses, requires a long hole instead of a round one. If there is a spotlight, it requires a 12-in. or 16-in. hole, but the effect of a spotlight is often produced by the use of special slides in the stereopticon.

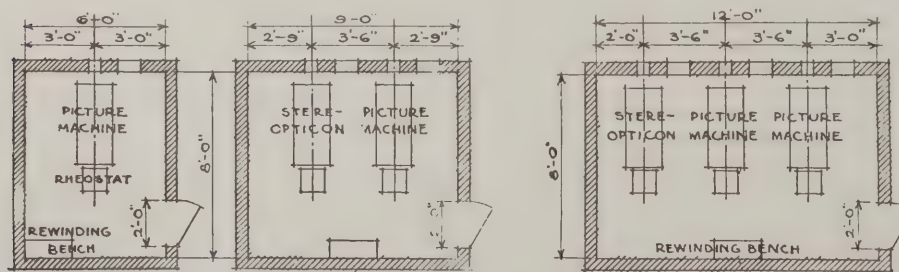
The look-outs should be sufficiently large to allow the operator to work either sitting or standing, as his hours are long, and an occasional change of pose is greatly to his comfort, and consequently to the efficiency of his work. In order that he may be able to see the entire screen at all times, the opening should be 12 in. wide and 24 in. high, and should be provided with a vertically sliding shutter, with an opening the full width and about 8 in. high. In many cases, however, smaller openings than this are required by law. The look-out for the stereopticon, and for the spotlight, if it is used, may be smaller, a 10-in. opening being ample, in view of their continuous use.

The fire shutters for all these openings as well as for the air inlets, should be of iron, not less than 1-16 in. thick, or of hard asbestos board, not less than 3/4 in. thick, the latter being strengthened with flat bars. They should run vertically, in fully made metal grooves, and should be held up by cords, controlled by a master cord soaked in inflammable wax, passing close to all the machines, the winder, and the film storage box, so that all the shutters close automatically in case of a fire at any point. The same master cord should automatically open the damper.

The room should be well lighted, one lamp over each machine, and plugs for the attachment of additional lamps on flexible cords, allowing them to be moved to any point. The interior should be painted a dark colour, preferably a black or dark green.

The Screen.

The screen upon which the pictures are projected may be constructed in several different manners. Where it can be permanently fixed against a wall a plaster face is one of the best types. It must, however, be very carefully made, as irregularities are strongly shown up by powerful lighting. Such a screen is usually finished with a coat of dull enamel or whiting, slightly tinted with blue, to increase its brilliancy. A surface painted with white lead paint is also sometimes used. When the screen must be movable



TYPICAL PLANS OF OPERATING ROOMS.

te muslin is the most common material. s, however, less brilliant than plaster, requires frequent replacement cause of its tendency to become dirty. has also the disadvantage of being undy, due to air currents that cannot be inated. Dull finished aluminium has been used, and gives a very brilliant ge. The most brilliant, however, is a ted plate glass mirror. The use of type is limited by its weight and the possibility of producing it in very large s, 13 ft. 6 in. by 18 ft. being the largest generally manufactured. In a few es a transparent screen is necessary, here muslin or frosted glass is gene-ly used.

n order to provide a frame for the pic- ture, a black border is painted on the en, of such a size as to lap over the es of the projected image about 3 in. or n. This increases, by contrast, the liancy of the picture and lessens the ts of vibration. A dull, finished paint st, of course, be used to prevent reflec- s. The space around the screen ould be simply treated and dark in ur. Black velvet draperies are often d and produce an excellent effect. he size of the screen need not be very t. An image 9 ft. by 12 ft. is visible to 100 ft. and gives figures of approxi- ely natural size. For longer houses a er screen is necessary. It is also im- ant that the screen should not be too n from the floor in order that the figures ppear to walk on the ground and not e air.

he position of the projector, relatively e screen, is a matter of some difficulty. ideal would be to have the projector ctly opposite the centre of the screen, this is seldom possible. It should, ver, be approximated as nearly as

conditions permit, as any divergence pro- duces distortion of the image. The operating room must nearly always be placed rather high, and it should be as far back as possible, as the angle of the rays is thus reduced to the minimum. It is generally considered that the distance from the projector to the screen should not be less than 75 ft. Care must also be taken that the projector is high enough so that the rays are not interrupted by the heads of any part of the audience.

Planning of the Auditorium.

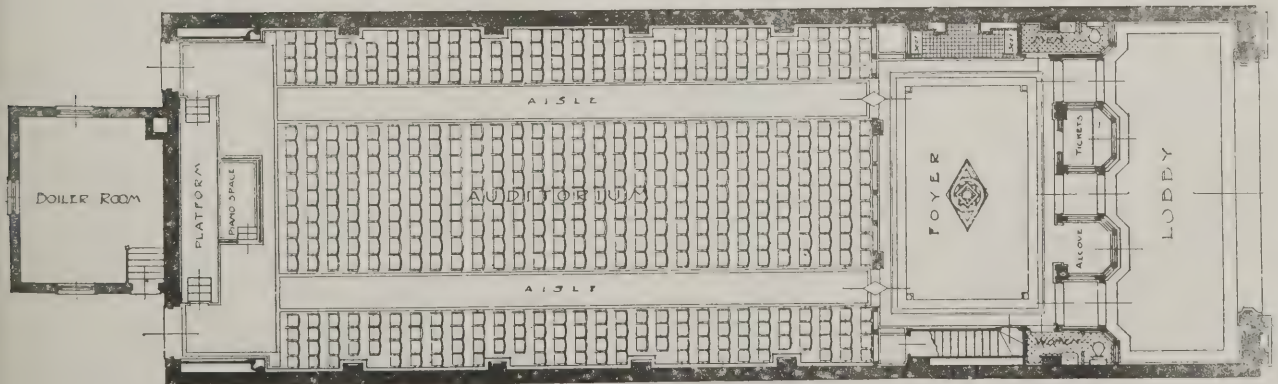
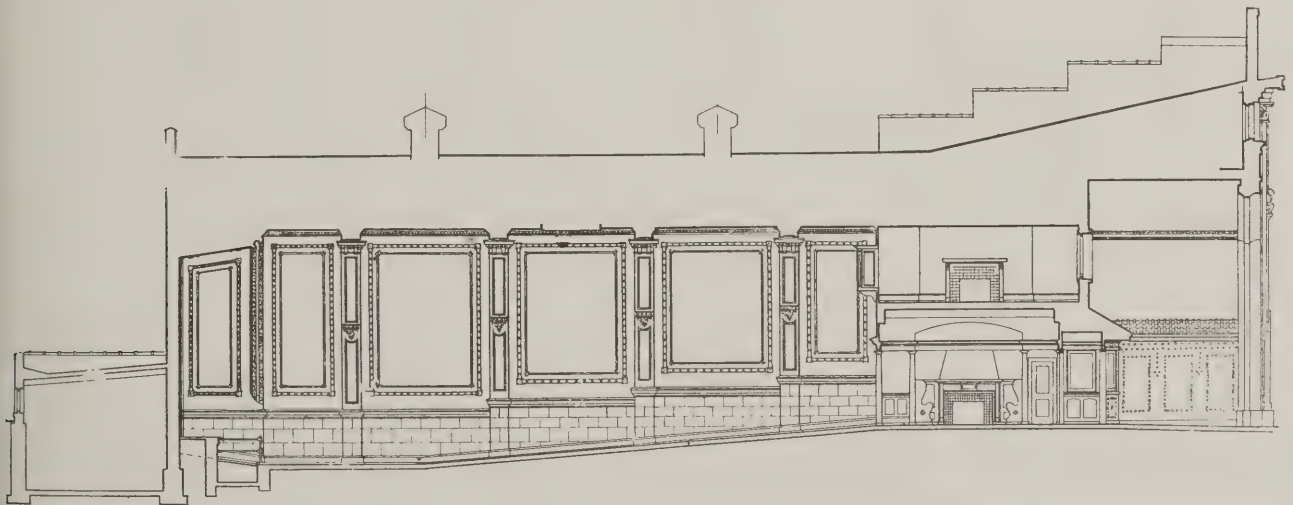
The planning of the auditorium demands a somewhat different arrange- ment from that of the regular theatre. Seats at the sides of the house, which are tolerable for ordinary productions, are

almost worthless for moving pictures because of the distorted view of the screen. The best seats, also, are not near the screen, but at a distance of from 70 ft. to 100 ft., where the vibration of the pic- tures is less apparent. If boxes are used they should therefore be placed at the rear of the house, and stage boxes should be eliminated, unless the moving pictures are a very minor part of the entertainment. Where there is a stage the screen should, if possible, be placed at the back, as this increases the distance to the audience and improves the view.

The slope of the floor must be carefully worked out as in an ordinary theatre. In fixing the height of the balcony, when one is used, care must be taken that it is high enough not to interfere with the view of



THE PLAYHOUSE, RIDGEWOOD, NEW JERSEY.
DAVIS, McGRATH, AND KIESSLING, ARCHITECTS.



EUREKA THEATRE, PHILADELPHIA. STEARNS AND CASTOR, ARCHITECTS.



THE PLAYHOUSE, RIDGEWOOD, NEW JERSEY. DAVIS, McGRATH, AND KIESSLING, ARCHITECTS.

the top of the screen from the rear of the main floor. This may require a greater height than would be necessary for other types of performances. Too steep a floor should, however, be avoided, the limit being usually fixed by law. Slopes are preferable to steps, if not too steep, and an effort should be made to have the rear of the main floor as near the street level as possible for ease of exit.

In laying out the seats the temptation is always to crowd them too much, but this is not advantageous, as it may cause the theatre to become unpopular and it also increases the fire risk. The rows of seats should not be less than 32 in. from back to back, and a width of less than 20 in. is not advised. The seats need not be upholstered, as the performances are usually short. Wood opera chairs are the best type for this purpose. They should be securely fastened to the floor and no other chairs should be used in the auditorium except in boxes.

Seating.

Because of the vibration of the image the first row of seats should not be less than 10 ft. from the screen. At the rear there should be at least 6 ft. of clear space and more in a large house. No aisle should be less than 3 ft. wide, nor should the total width of the aisles be less than 1 ft. for every fifty seats. The aisles should not be too far apart, no seat be more than seven seats away from the nearest aisle.

Fire escapes should be provided for every balcony when one is used. This matter is usually regulated by law, but where there is no law the recommendations of the National Board of Censorship, which is based on a thorough investigation, should be followed. It is generally required that for obvious reasons, balconies contain more than one-third the total seating capacity of the hall.

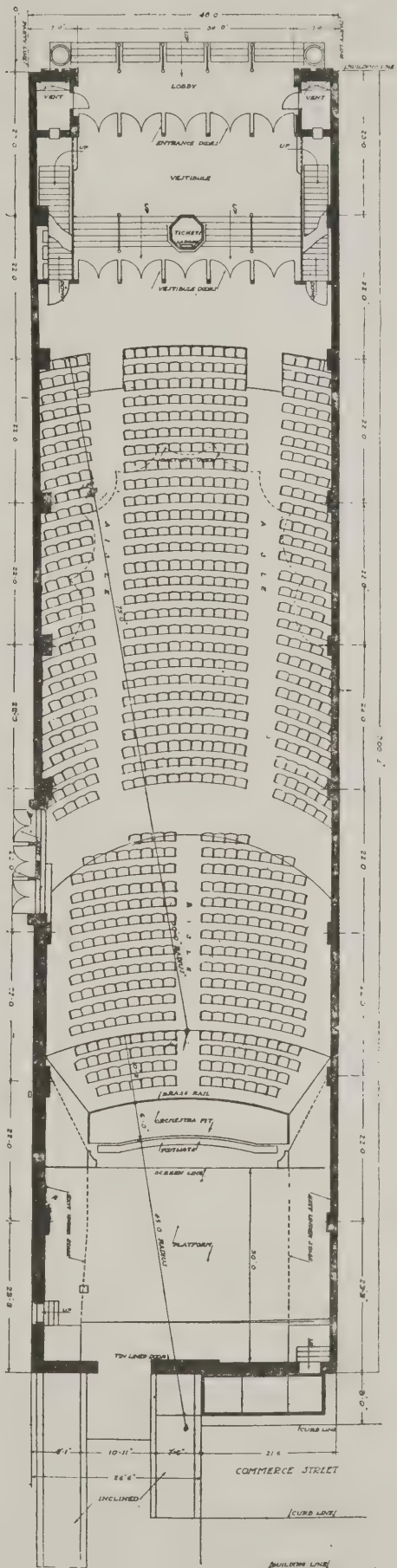
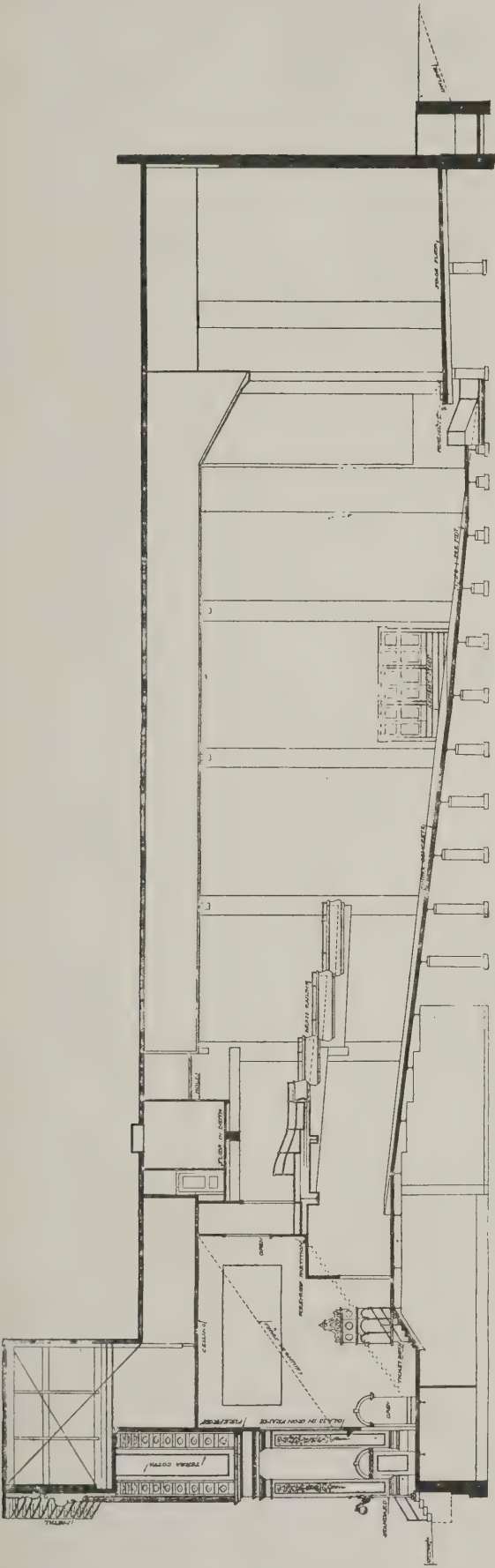
Lighting.

The lighting of the hall need not be very strong, but it should be sufficient so that spectators may be able to enter and leave at any time. Either direct or indirect lights may be used, but any direct lights should be shielded so as to avoid glare. Ceiling lights are the best for this type of building, and any side brackets used should be high enough not to interfere with the audience. Red lights should be placed at all exits. In order that the opening of the doors may not flood the screen with light from the street, partitions should be placed in front of the main doors at about 4 ft. distance.

Heating and Ventilating.

The heating and ventilating of the hall is a matter of greater difficulty, as the standards of ventilation are somewhat uncertain. The great volume of moving air formerly considered necessary is now no longer advocated, but greater stress is now on temperature and humidity control. The American Society of Heating and Ventilating Engineers recommend a circulation of 15 cub. ft. per minute per person with a temperature not less than 62 to 64 degrees at the breathing line. They also commend also a total capacity of 80 cub. ft. per person in the hall, or 4 ft. 4 in. per person exclusive of passage. This floor space is more than compensated by the normal spacing of seats. The use of gas radiators is not recommended by the writer for this class of building. [Recent developments in gas-heating should correct this view.]

The type of hall where the screen is at the same end as the main doors has



VICTORIA THEATRE, PHILADELPHIA. STEARNS AND CASTOR, ARCHITECTS.

advocated by some authorities as lessening the fire risk, since the audience face toward the principal exits, and need not pass the operating room to reach them. It has the disadvantage of interfering with the attention of the audience, due to the frequent entrances and exits, and is seldom used. An emergency exit at the screen end of the hall is, however, advisable, and is frequently required by law.

The decoration of the hall is usually simple. No great elaboration is necessary, as the waits between reels are usually short and the audience has little time to admire the auditorium.

Exterior Design.

In the design of the exterior provision must be made for ample entrances and exits. The most usual type has a lobby 6 ft. deep or more, extending almost across the entire front. In the centre of its rear wall is the ticket booth, flanked by the entrance and exit doors. Spaces should, if possible, be provided for the placing of posters, but this is rendered difficult by their great variation in size. If the picture companies could be induced to standardise the size of posters a great improvement in this respect would be possible. The inevitable electric sign should also be made part of the design, instead of being, as it usually is at present, a hideous excrescence. This reform, unfortunately, involves the education of the owners, a matter of considerable difficulty.

The laws governing moving-picture theatres vary considerably in the different cities and States and have led to certain differences in planning. In New York City, for example, the building is subject to the theatre regulations if its seating capacity exceeds six hundred persons, or if it has a stage with scenery, while smaller houses without scenery are governed by a law whose provisions are entirely different and in most respects less rigorous. In the main, however, these buildings tend toward certain well-defined types, examples of which are shown by the accompanying illustrations.

The Eureka Theatre, Philadelphia, is an excellent example of the small building used for moving pictures exclusively. The plan represents the simplest type, a rectangular hall with no stage or balconies. In the front is an open lobby followed by a foyer, with which communicate small toilet rooms at the two sides. The operating room is placed above the foyer. The auditorium is 38 ft. by 67 ft., with a seating capacity of 477. The front of the building is of white terra-cotta, and is unusually good for a building of this class.

The Victoria Theatre, Philadelphia, is worthy of attention because of the development of its plan. The building is 48 ft. wide and 200 ft. long, running from street to street, and advantage has been taken of this in providing exits at the screen end, with passages under the stage. The plan is more complete than that of the Eureka Theatre, having a complete stage, and a balcony of considerable size. Having been built several years ago, it contains certain features that would not be considered desirable, notably the stairs at the main entrance. In the main, however, the plan is excellent, and shows the possibilities of a site offering considerable difficulty in treatment because of its excessive length, and of the difference in the levels of the adjoining streets. The plan shows the method adopted in laying out the seats in the auditorium. Toilet rooms are provided in the basement under the vestibule, being reached by the stairs at the rear of the hall. The Ridgewood Playhouse represents a different type of plan, in which

a portion of the front has been given up to small shops, leaving a lobby of considerable depth. The building is equipped not only for moving pictures, but also for dramatic performances and concerts, and it is this consideration that has caused the introduction of the loges at the sides of the proscenium. The passages at the sides of the building provide fire exits from the balcony, which extends back over a portion of the entrance lobby. The auditorium is decorated in tones of brown and gold, the intention being to avoid the usual gaudy type of theatre interior, particularly in view of its fitness for concerts. The front of the building is of stucco, inlaid with brown tiles that recall the decorations of the interior, and is notably successful in that the architects have succeeded in preventing a loss of unity as a result of the introduction of the shop fronts.

LEGAL.

Freeholders' Action Against Builders.

Horsham and Another v. Smith.

November 19. King's Bench Division. Before Mr. Justice Bailhache.

This was an action by the plaintiffs, Mr. A. Horsham and Mr. F. Shearley, Blackheath, two freeholders of seven houses, against a neighbouring builder, Mr. T. C. Smith, of Blackheath, Staplehurst, Kent, claiming damages for alleged removal by excavation of the lateral support from the rear fences of seven houses in Eastcombe Avenue, Blackheath, and an injunction to restrain gravel removal from the bank on land of the defendant which intervened between the back gardens of the terrace and Invicta Road.

Defendant denied the plaintiffs' allegation and alleged that the falling of rain-water in large quantities from workshops, summer-houses, and greenhouses on the plaintiffs' property, which poured through the fences, caused all the trouble.

Mr. W. Craig Henderson appeared for the plaintiffs and Mr. E. P. Blackwell for the defendant.

Mr. Horsham said he owned three of the houses and his co-plaintiff four. Through the removal of gravel there was now a precipitous descent behind the garden fences. Defendant had made a concrete wall 16 ft. away, but it was not effective.

Mr. Shearley gave corroborative evidence.

Mr. J. E. Forbes, F.R.I.B.A., of Old Square, London, gave evidence as to estimates for the building of a bank and retaining wall on the defendant's property.

The defendant, in his evidence, said he built the concrete wall to retain his own gravel. No gravel had been taken away from beneath the fences as far as he knew since the beginning of 1910. There was plenty of gravel on other parts of his land. The water at the back of Mr. Shearley's was the sole trouble.

Mr. T. C. Smith, jun., said he had had charge of the yard since 1910 and no sand or gravel had been taken from beneath the fences.

His lordship questioned Mr. Donald Dinwiddy, of Messrs. T. Dinwiddy and Sons, architects and surveyors, of Parliament Street, Westminster, and Mr. Robert Frarey, of Messrs. Hatch and Hatch, Rushey Green, Catford, as to the cost of making a substantial bank on the defendant's property, with a slope of one in two, and eventually gave judgment for the plaintiffs, with costs, for £110, to be reduced to a shilling if within four months the work was carried out for the erection

of a bank and the fences repaired to the satisfaction of an independent surveyor to be chosen by the experts on either side or failing that his lordship. The costs would be divided up and apportioned according to the lengths of the several frontages.

Nuisance from an Electrical Power Station.

Dexter v. Aldershot U.D.C.

November 18. Chancery Division. Before Mr. Justice Neville.

This was an action by the plaintiff, the owner and occupier of Cargate House, Aldershot, against the Council to restrain them from so running and working the electrical plant and water tower as to constitute a nuisance.

Mr. Jenkins, K.C., and Mr. Church appeared for the plaintiff, and Mr. Peters, K.C., and Mr. Stamp represented the defendants.

It appeared that the defendants had erected on land close to the plaintiff's property buildings in which they had placed powerful engines and plant for a large central station to supply electric light to Aldershot town. There was also a water tower erected there, some 50 ft. high, with a condensing tower for cooling the water before it passed into a tank. Plaintiff's complaint was that the vibration and noise caused by the working of the engines and machinery seriously interfered with the comfort and enjoyment of her house, and that the large quantities of steam and vapour which were emitted from the water tower penetrated into her house and rendered it damp and unhealthy and unfit for occupation.

Defendants, whilst admitting that one of their engines caused vibration to the house, denied that the vibration was either sufficient to cause any nuisance or any injury to the plaintiff. They said that the vibration had been diminished since the engine had got into perfect running order. They had only worked the engine during certain hours, and now undertook only to work the engine between six in the morning and half-past nine at night on Saturdays and between six in the morning and eight at night other days, until means had been found for entirely preventing the vibration. They made an offer of £5 to plaintiff to cover her costs if she accepted that undertaking. With regard to the water tower, they said it was 65 ft. high, some 20 ft. higher than the ridge of plaintiff's house, that the nearest proximity to plaintiff's house was 100 ft., and they denied that the steam and vapour to any appreciable extent penetrated into plaintiff's house.

His lordship, after hearing evidence, came to the conclusion that plaintiff's case had been free from exaggeration, that the noise and vibration complained of amounted to an actionable nuisance, but that the evidence as to a nuisance arising from the water tower was very slight. He granted the injunction asked for against noise and vibration, but having regard to the war he stayed the operation of the injunction until three months after the declaration of peace.

Cottage Homes for Nurses at Brighton.

In memory of Nurse Cavell, Mr. John Howard, a director of the North British Railway and an octogenarian philanthropist of Brighton, is arranging to build twenty-four cottage homes for incapacitated nurses, and to endow each with £100 a week. To this end he is devoting £30,000. The cottages are to be built on the side of the John Howard Convalescent Home.

ARCHITECTURAL ASSOCIATION ACTIVE SERVICE COMMITTEE.

The A.A. Active Service Committee commenced its work in connection with the War Service Bureau in October, 1914, objects being (1) to provide necessities extra comforts for men connected with architectural and surveying professions rally who are serving with the colours, (2) to look after the wives and dependents of the mechanics who have been released from the building trades through A.A. War Service Bureau.

In their report, issued exactly a year after the Active Service Committee was formed, the Committee think that the subscribers donors of gifts may be interested to what has been done up to the present. A circular letter has been sent out to all men joining the colours who come within the scope of the Committee's work, of the formation of the Committee, what it hoped to do for them. The quickly availed themselves of the offer.

Members of the Architectural Association and their friends have come forward generously with subscriptions and gifts of all sorts, with the result that the work has been carried on uninterruptedly more than twelve months.

Since October, 1914, the Committee have provided many necessities and extra comforts for men connected with the architectural and surveying professions generally (including a number of men from the building allied trades), who are fighting for their country all over the world. The Committee have also visited many of the families left behind, and have been able to give assistance and advice where needed. In the twelve months dealt with in the report more than 1,250 parcels were despatched, which, with very few exceptions, have been safely received and gratefully acknowledged. The contents, which have varied with the seasons, have included flannel shirts and woollen goods of all sorts, soap, handkerchiefs, fly-nets, sun-protectors, "housewives" (designed by a member of the Committee and much appreciated by the men), dubbin, bootlaces, cigarettes, tobacco, pipes, lighters, shaving brushes, candles, condensed milk, cocoa, coffee, potted meats, tinned fruits, cakes, sweets, lemonade, chocolate, and also quantities of games.

Gramophone and a concertina, which were specially asked for, were given by subscribers as soon as the need was made known. Very large numbers of magazines and professional papers have been sent and are being despatched each week, which are much appreciated by the recipients and are being passed on until they fall to pieces. The number of names on the parcel list increases as the different regiments are sent abroad. Besides the men in France, Belgium, India, Malta, and Egypt, there are now many in Gallipoli who write and ask for anything the Committee can send. They are specially glad of parcels sent to their country where no extra comforts can be procured, and where even water is at times scarce.

The funds are now very low, and it will be impossible for the Committee to carry on their work without further help. They, therefore, earnestly appeal for subscriptions and gifts of woollen articles, cigar-magazines, and light books.

The Committee have the use of the premises of the Architectural Association, and are in no way incurring expenses beyond the cost of postage. With another winter to be faced, the possibility of having to cease

sending parcels, which are so much looked forward to, will not bear contemplation.

All cheques and parcels will be gratefully acknowledged and should be sent to Mrs. Maurice Webb, 18, Tufton Street, Westminster, S.W.

The various letters quoted in the report as samples of some hundreds, show how much the work of the Committee is appreciated. With the continually increasing numbers of architects and surveyors joining the forces, the work of the Committee is likely to extend considerably.

The first list of subscribers contained more than 200 names. The following is a list of subscribers since October 1, 1915, in order of contribution:

	£	s.	d.		£	s.	d.
George Corderoy ..	5	5	0	Vivian H. King ..	1	1	0
H. J. Johnson	3	3	0	Alfred Webb	2	0	0
G. L. Brighton	3	3	0	Arnold Jones	1	1	0
Ford and Walton, Ltd.	2	2	0	Mrs. Marshall	0	10	0
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Sir Herbert H. Bartlett, Bt.	10	10	0	C. F. Kearley	2	2	0
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W. E. Blake, Ltd.	5	0	0	C. B. Falkner	0	10	6
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Trollope and Sons ..	10	10	0	Mrs. Gregory	1	1	0
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Leslie and Co., Ltd.	10	10	0	Robert Williams ..	0	10	0
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The Trussed Concrete Steel Co., Ltd.	3	3	0	Sir Henry Tanner ..	2	0	0
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Redpath Brown and Co., Ltd. ..	2	2	0	Strange and Sons ..	2	2	0
Mrs. Napier	0	10	0	John Murray	2	0	0
Haywards, Ltd.	1	1	0	Mrs. Jeppard	0	5	0
W. H. Heywood and Co.	2	2	0	William Woodward ..	10	10	0
Selby and Sanders ..	2	2	0	F. W. Troup	1	1	0
Herbert Buckland ..	2	2	0	Matt. T. Shaw and Co., Ltd. ..	5	5	0
				Mrs. Tye	0	2	6
				Jacob Long and Sons ..	1	1	0
				H. Barlow Webb ..	10	0	0
				Waring and Gilchrist ..	2	2	0
				Price and Son	5	0	0
				Total	£207	12	0

Further donations should be addressed to the chairman and joint-hon. secretary of the Committee, Mrs. Maurice E. Webb, at 18, Tufton Street, Westminster. Mr. F. R. Yerbury is joint-hon. secretary.

OBITUARY.

Mr. George Morgan.

Mr. George Morgan, of Carmarthen, died on November 5, aged eighty-one. He was one of the oldest architects in South Wales, and during the last fifty years designed a great many buildings in all parts of the Principality. He acted as architect to more than twenty-eight School Boards, and designed no fewer than eighty schools, both secondary and elementary, in Carmarthenshire and the adjoining counties. He was the architect also of many Non-conformist chapels, one of the largest being at Newtown, Montgomeryshire. During the last thirty years he was associated with his eldest son, Mr. J. Howard Morgan, F.R.I.B.A., of Carmarthen, who continues the practice. Among the work carried out during this period are Bush House, the Pembrokehire seat of Colonel Sir Thomas Meyrick, C.B.; Penrallt, Cardiganshire, for the late Mr. W. G. Reddie; Rhosygilwen, for the late Mr. J. V. Colby; Cilwendeg, for the late Mrs. Saunders-Davies; and other country residences. Bank premises were erected in various towns for the London and Provincial, Lloyds, and the London City and Midland Banks.

NEWS ITEMS.

Westminster Abbey and the Zeppelins.

Westminster Abbey is guarded every night by a corps of architects organised by Mr. W. D. Caröe, F.S.A., F.R.I.B.A., Master of the Plumbers' Company.

With the Forces.

A fifth member of the permanent staff of Mr. A. Alban H. Scott, architect, of Lincoln's Inn, has joined the forces—Mr. G. Darroll Brough, now in the O.T.C. (Inns of Court.)

Change of Name.

Mr. Neil Koch, Student R.I.B.A., of Messrs. Alex. Koch and Sons, architects, 44, Doughty Street, London, W.C., has executed a deed-poll whereby he formally relinquishes the surname of Koch and adopts that of Martin. Henceforward he will be known as Douglas N. Martin, of the same address.

The Tolbooth Steeple.

At a meeting of Glasgow Town Council a long discussion took place regarding the proposal to remove the Tolbooth Steeple from its present site at Glasgow Cross and to reconstruct it at the junction of Gallowgate and London Street. Bailie Duncan Graham moved the adoption of the minute recommending the proposal, which was seconded by Bailie Morton, who said that they were anxious to make the Cross an up-to-date part of the city. Many of them regarded the steeple in its present position as an obstruction and a nuisance, and the proposal recommended would mean a real city improvement. On a division by roll-call the proposal was carried by 39 votes to 31.

"Notes on Property Law and Investment."

This work, which has just been published by Eveleigh Nash, 36, King Street, W.C., is not a dry law book, but is readable, amusing, and interesting, being full of convincing and pointed personal anecdotes and experiences of the author—a barrister, who formerly was an architect and surveyor. Househunting (usually a wearisome business) is here shown to be also a serious matter, with many pitfalls for the uninformed. It is clearly indicated how these pitfalls may be avoided by purchasers or tenants, and many useful hints on investment, repairs, etc., are given. A chapter on the war as affecting property brings the book right up to date. The book is not only suitable for the general public but for professional men whose business it is to deal with such matters.

The Fire at "Ruskin House."

We are informed by Messrs. William Morris and Company, "Ruskin House," Ltd., Rochester Row, Westminster, that the cause of the recent fire there was unknown except that it originated in the top floor and was confined to that floor. The floor was partly used for restoring pictures and for picture framing, and was therefore full of highly inflammable materials. A portion was also used for the manufacture of munitions, and the floor below it as a drill-hall for a Volunteer Military Force. The fire speedily took complete hold of the top floor, and was so fierce as to prevent the firemen getting to close quarters. However, the conflagration was under control in about an hour, and did not break through either the concrete floor or the vulcanite roof. William Morris and Company wish it to be made perfectly clear that the fire in no way interfered with the works being carried on at "Ruskin House" in which architects are interested.

PUBLISHER'S ANNOUNCEMENT.

THE question of the cost of Advertising is governed entirely by the circulation of a publication. The prices for small Advertisements enumerated below are framed upon the lowest possible basis in order to allow the use of the columns of the Journal for "Wants," &c., at a figure well within the reach of everyone.

Advertisers are purchasing the circulation of a paper in buying space for their announcements, and we are able to announce that "The Weekly Nett Sale of The Architects' and Builders' Journal is larger than that of any other Architectural Journal."

Appointments Wanted.

4 lines (about 28 words) 1s. 6d.; 3 insertions, 3s.

ADVERTISER seeks engagement in builder's office; well up in all building works and office routine; over military age; active and reliable; can give first-class references.—James, 221, Brockley Road, S.E.

ARCHITECTS and Surveyors.—Junior Assistant seeks re-engagement; ineligible; domestic and business planning details, etc.; artistic perspectives; measuring existing buildings; excellent testimonials; moderate salary.—T., 4, Overton Villas, Maumbury Way, Dorchester. 709

BUILDER'S Assistant whose knowledge of detail, accounting, and office work is extensive and exact, and appreciated by employers with whom he has had business relations, desires immediate engagement.—John M. Fife, 19, Campden Street, Kensington, W. 707

BUILDER and Decorator's Clerk and Assistant desires engagement; town or country; good West-end experience; accounts, books, plans, etc.; eighteen years in present position; highest references.—H. B., 22, Petworth Street, Battersea Park, S.W.

BUILDER'S Clerk, good references, wishes situation; book-keeper, set of books, prime costs, joinery works; several years' experience. Apply M., 1, Church Lane Willesden, N.W.

EXPERIENCED Architectural Assistant (beyond war service age) desires an engagement in London.—Address T. C. Y., 56, Addison Mansions, Blythe Road, Kensington, W. 708

FOREMAN or Overseer seeks berth; thoroughly competent; above military age; life experience in all branches of the building trades; good manager of men; free at once.—Box 692.

GENERAL Foreman seeks re-engagement; town or country; new or alterations; carpenter by trade; just finished hutments; good references.—C. H., 6, Marshall's Road, Sutton, Surrey.

PAPERHANGING wanted (piecework); high reliefs, Anaglyptas leathers, soirettes, embossed papers, Tekko, Emdeca, canvas, and all latest productions; panelling and special designs; town or country.—Logan, 185, Loughborough Road, Brixton, S.W.

PAINTER and Decorator seeks re-engagement as walking or working foreman; reliable estimator; practical; thorough control of men; last employ ten years; aged 41; good references.—Apply Foreman, 11, Market Place, Dudding Hill Lane, Willesden, N.W.

POSITION as Agent in charge of works or similar responsible post desired by Class 40 man; any part of country; just completed large camp and other Government erections; undeniable references from leading London firms; commence immediately.—Box 705.

WANTED, Situation as General Foreman (carpenter); thoroughly experienced in all branches.—J. T., 43, Amity Grove, Wimbledon

Appointments Vacant.

6d. per line.

ARCHITECTS' WAR COMMITTEE.

The Professional Employment Committee have under consideration certain schemes of work with a view to affording small temporary employment to architects who are without work in consequence of the war. Applications can only be considered from British architects dependent on their profession for a living, whose present difficulties are directly due to the war, and who are not eligible for military service. Applications should, in the first instance, be made to the Hon. Secretary of the Professional Employment Committee of the Architects' War Committee, 28, Bedford Square, W.C.

REINFORCED Concrete Draughtsman required at once; applications (which will only be considered from men certified as unfit for military service) should contain particulars of training and experience, and salary required, and be accompanied by copies of three recent testimonials, addressed to City Architect, 91, Commercial Street, Dundee. 706

WANTED, a Builder's Clerk with a knowledge of the trade.—Reply by letter, stating age, salary, and references to W. and E., 94, Park Road, Regent's Park, N.W.

Miscellaneous.

6d. per line.

TYPEWRITING; architects' and builders' specifications, etc.; testimonials and soldiers' letters copied; prompt, cheap, and accurate; send for price list.—Address, "Typist," Typewriting Office, 65, Marsham Street, Westminster. 700

SECOND-HAND Optical Mart

For the Purchase and Sale of **LEVELS, THEODOLITES, DRAWING INSTRS.**—Clarkson's, 338, High Holborn, London, W.C. (Opposite Gray's Inn Road).

TO ARCHITECTS COMPETING.

SCHEMES & ESTIMATES FOR ENGINEERING WORK.

(Lighting, Heating, Ventilation, and Sanitation), and Architectural Metal Work, supplied free of charge of **STRODE & Co., Ltd.**, 48, Osnaburgh Street, London, N.W., and 18, Easy Row, Birmingham.

BOOKS.—Books on Building Trades, Engineering Educational, Literary, Technical, and all other subjects; second-hand at half prices; new at 25 per cent. discount; catalogue free; state wants; books sent on approval; books bought; best prices given.—W. and G. Foyle, 121-123, Charing Cross Road, London, W.C.

FOR Sale, about four standards prime bone-dry Pitch-pine boards, from 1 in. by 9 in. to 2 in. by 12 in. What offers f.o.r. Grantham?—Apply Rudd and Son, Ltd., Builders, Grantham.

PLANING Machine, 5-h.p. gas engine, mortising machine, grinder, grindstone, spindle, bandsaw, etc.; all in good running order. Must be sold immediately.—Apply Burstow and Clements, Auctioneers, Bexhill.

Contracts Open.

9d. per line.

TO CONTRACTORS AND OTHERS.

The Wandsworth Borough Council is prepared to receive Tenders for the supply of materials and the Execution of Works, from March 31 next, as per forms of tender, as follows, viz.:—1, Artificial stone; 2, blue bricks; 3, castings; 4, cement; 5, coal and coke; 6, disinfectants; 7, granite (broken); 8, granite kerb and setts; 9, gravel and flints; 10, house refuse collection, removal and disposal; 11, iron bars, etc.; 12, lime, bricks, etc.; 13, oilman's goods; 14, old tins, purchase of; 15, painters materials; 17, saltglazedware pipes; 18, scavengers' brooms; 19, signwriting; 20, slag blocks; 21, steam rollers, hire of; 22, sweepers' clothing; 23, Thames ballast and sand; 24, timber, etc.; 25, tools, etc.; 27, woodpaving blocks. Specifications and printed forms of tender may be obtained on application to the undersigned, and no tender will be entertained unless it is made upon one of such printed forms and delivered at the Council House, East Hill, Wandsworth, S.W., not later than 10 o'clock in the forenoon of Thursday, December 16. D. A. Nicholl, Town Clerk, Council House, Wandsworth, S.W. November 25, 1915.

TO BUILDERS.

The Metropolitan Asylums Board invite Tenders for Extension of Washing Shed and other Sundry Works at the Mead Ambulance Station, Carnwath Road, Fulham, S.W., in accordance with drawing and specification prepared by Mr. W. T. Hatch, M.Inst.C.E., M.I.Mech.E., Engineer-in-Chief. The drawing, specification, and form of Tender may be inspected at the Office of the Board, Embankment, E.C., on and after Ten a.m. on November 22, and can then be obtained upon payment of £1. The amount of the deposit will be returned only after the receipt of a bona-fide Tender sent in accordance with the instructions on the form of Tender and after the specification and drawing have been returned. Tenders, addressed as noted on the forms, must be delivered at the Office of the Board not later than 2.30 p.m. on Wednesday, December 1, 1915. (By Order) T. DUNCOMBE MANN, Clerk to the Board. November 17, 1915.

Educational Announcements.

6d. per line.

COURSES OF PREPARATION,

In Class, by Correspondence, or in Office for the Examinations of **THE SURVEYORS' INSTITUTION, THE ROYAL INST. OF BRIT. ARCHITECTS** and the **SOCIETY OF ARCHITECTS**. On a complete, practical, and highly Successful Method, by

Mr. JAMES NEILL, F.S.I., Etc.,

Architect and Surveyor, Standard Building, Leeds. (Tel. 192.)

Note.—Before deciding upon any system of tuition, an intending candidate is invited to communicate with Mr. Neill (who, in addition to many other qualifications, is a Medal Honoursman, prizeman, and Head of the Department of Building at the Leeds Technical School).

The 15 months' S.I. Courses commence in January. Past successes include:—Penfold Silver Medal, Building Prize, Driest Prize, and the Irish Special Prize.

R.I.B.A. EXAMINATIONS.

Special personal system of preparation, correspondence or private tuition. Bond Batley (A. G. Bond, B.A. Oxon, A.R.I.B.A.) Old Queen Street, Westminster, S.W. Tel. Central.

Auction Sales.

9d. per line.

In Bankruptcy.—Re S. Butterfield.—By Order of the Trustee.

GOFFS OAK, CUFFLEY, HERTS. **MR. H. W. SMITH** will SELL by AUCTION **THE NURSERIES**, Newgate Street Road, G. Oak, near Cuffley, Herts (G.N. Rly.), TO-DECEMBER 1, 1915, at TWELVE o'clock precisely.

The whole of the valuable new L.O. NURSERY MATERIALS, comprising 3,400 of new 4-in. h.w. pipes, g.m. steam destructible valves, 4-in. slot throttle and phragm valves, elbows, single and double crosses, d.t. boss pipes, two open tanks, hinges and sockets, greenhouse looks, law screws, nails, Stourbridge fire slabs, new roof lights, pitch-pine planks, prepared bars, rail, ridge, capping, 40 gallons Farmiloe's Impervious paint, 18 cwt. of putty, linseed oil, Stockholm tar, return kegs, and other effects. On view the day to and morning of Sale. Catalogues may be obtained from Messrs. SAKER & DA. Chartered Accountants, 95 and 97, Finsl Pavement, London, E.C.; and at the AUCTION and ESTATE OFFICES, 6, Great James St Bedford Row, London, W.C.

Under a Deed of Assignment.—Re W. Heath (trading as T. W. Heath and Son) By Order of the Trustee.

KENSINGTON.—The valuable STOCK TRADE and PLANT of a BUILDER, DECORATOR, and ELECTRICIAN, comprising a STOCK of ELECTRIC and GAS FITTING builder's ironmongery and brass plumber's foundry, general castings, goods, contents of paint shop, new and building materials, glazed ware, sanitary goods, timber, good s.h. doors, partition mantels and overmantels. The plant includes eighty steps, trestles and ladders, bench weighing machines, two trucks, engine lathe.

THE SHOWROOM FITTINGS AND OFFICE FURNITURE, counter and barrier, s. Remington No. 7 typewriter, hot water heating apparatus, and numerous effects, which will be SOLD by AUCTION by

MR. H. W. SMITH, at the WORKS, Pembroke Walk, Pembroke Villas, Pembroke Sq. Kensington, and No. 154, Cromwell Rd. South Kensington, on THURSDAY, DECEMBER 9, at ELEVEN o'clock.

On view the day prior. Catalogues may be obtained from CHARLES F. OUGHTON, Chartered Accountant, Moorgate St. Chambers, E.C.; and at the AUCTION ESTATE OFFICES, 6, Great James Street, Bedford Row, W.C.

THE ARCHITECTS' & BUILDERS' JOURNAL.

Wednesday, December 8, 1915.

Volume XLII. No. 1092.

No. 164.



A ROMAN SEPULCHRE.

(From Piranesi.)

THE ARCHITECTS' & BUILDERS' JOURNAL.

DECEMBER 8, 1915.

TOTHILL STREET, WESTMINSTER.

VOLUME 42. No. 1092.

EDITORIAL.

NATURALLY enough, the text of the Government Rent Bill has excited copious, caustic, and occasionally comic controversy. In fixing a standard rent and a standard rate of mortgage interest for small houses—the Bill applies to houses in the County of London, where either the standard rent or the ratable value does not exceed £30, and to boroughs or urban districts with a population exceeding, in Great Britain, 100,000, and in Ireland 25,000, where the rent or ratable value does not exceed £21—the Government have confessedly ridden roughshod over mere economic theory; but the exigencies of war-time that have made rents go up would seem to justify the endeavour to keep them below the level of extortion.

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Many writers and speakers think that the £30 limitation is too low. Those persons, it is argued, who are hit hardest by the war usually occupy houses that are much higher rented and rated, and it is therefore contended that the limit should be raised to at least £40. Unless this is done, the consequences will, we imagine, be much more serious than those implied in the failure to relieve those classes of the community from whom the war is exacting most sacrifices. Middle class householders of the £40 standard will in very many instances be driven to take refuge under the £30 limit, and what that means is only too patent to the student of sociology. *Facilis descensus Averni*. Besides, the downgrade movement would greatly aggravate the prevailing shortage of small houses, and, indirectly, accentuate the evils of overcrowding.

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Pungent criticisms of the Bill have come from Scotland, where the prevalence of tenement houses creates a complication that was perhaps unforeseen. In Glasgow, for instance, where the agitation against rent-raising began and has most vigorously flourished, there are thousands of tenements in each of which there are some floors that come within the lower limit, and others that exceed the higher. Wholesale avoidance of the higher rentals will have a curious effect on the occupancy of these dwellings, in which the dearer floors will be emptied, or, worse still, will be as much overcrowded as the cheaper floors. It is here that a critic anticipates evil with respect to the matter of repairs—he says bluntly that these will be left to the tenant, who will either do them himself, or leave them severely alone, with the result in either case that the house-repairing business, hygiene, and even decent cleanliness, must languish in a common limbo. But this is surely an extremely pessimistic view.

“Apt alliteration’s artful aid” has been freely brought into play on each side of the argument. Mr. Harold Cox calls the Bill “a makeshift measure which it admittedly is.” Mr. Alfred Yeo, M.P., has for the heading of a rather emotional article in support of the Bill, “Shylock Shattered; What Rout of the Rent Raisers Means to the Nation.” Mr. Cox and Mr. Yeo may be left to neutralise each other, the one with his rhetorical plea that the property-owner is being put to excessive hardship, and the other that a workman who is drawing two or three pounds a week more than he has ever done before may be saved from paying an extra sixpence a week in rent, and the other with his harrowing citations from correspondents who write in this strain: “While our dear ones are freely offering their lives and shedding their blood on behalf of King and Country the vampire landlords are sucking the life blood of the helpless ones they leave behind.” “Vampire landlords” is good rhetoric, but hardly conduces to a sober and just view of the situation.

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Less excitable minds suggest the establishment of Rent Courts, to determine the rent of dwelling houses on the application of either landlord or tenant. Advocates of this expedient go for a precedent to New South Wales, where last August such courts were set up by legislative enactment; but fancy that Ireland could have furnished an example of much riper date, and one which does altogether encourage the idea. Theoretically, abating the dilatoriness of procedure, such a measure might have been preferable to Mr. Long’s Bill, which is particularly hard in its incidence on mortgagees, which may not be foreclosed, and on which the war interest must be maintained. The spectre of the mortgagee, allowed neither to raise interest nor to call in his mortgage—tied hand and foot, and left to take his chance of being overwhelmed by the sundering flood that isolates him from the capitalists who have more freedom of struggle for life—does not encourage investment in house-property, nor attract capital to the building industry. Nor will the mortgagee be greatly comforted by the assurance that his position, if unhappy, is at least logical. As Mr. Walter Long said in the House last Wednesday, when the Increase of Rent and Mortgage Interest (War Restrictions) Bill was given its full and delightfully ambiguous title—read a second time, “If they were to interfere with the right of the owner of property to raise the rent he charged his tenants, obviously in justice he must deal with the mortgagee who lent the money to the owner of the houses, and not allow him to raise his rate of interest during the war period.”

quite conscious, however, that the only justification for proposals of this kind was that they were temporary, "to meet," as he said, "a passing evil of the moment." It is a bitter pill, to be swallowed for the immediate benefit of the body politic.

Deep regret, in which the entire profession will share, was expressed by Mr. E. Guy Dawber, assistant hon. secretary of the R.I.B.A. at the deaths, in active service with the colours, of three young associates, Lieutenants S. E. Barrow, E. H. Gibson, and G. A. Kay. Spencer Ellwood Barrow became an R.I.B.A. student in 1894, and an Associate in 1900, and, before joining the Forces, was in practice at Lancaster. Edmund Herbert Gibson was student in 1909, Associate in 1913; his home was at Chiswick. George Alexander Kay was student in 1907, Associate in 1913; his home was at Finchley. In the extensive lists of architects on war service which have been published in our issues of March 17 and March 24, 1915, it appears that Mr. Barrow and Mr. Gibson both joined the Royal Naval Volunteer Force; and it is probable that, while architects certainly have their favourite corps, they are represented in considerable numbers in all branches of service, and in all regiments of the army. In announcing the deaths of these gallant young men, Mr. Dawber very rightly asked that the name of Captain the Hon. Sir Schomberg Kerr McDonnell should also be recorded. As Secretary to H.M. Office of Works from 1902 to 1912, he was in frequent relationship with the Institute. He was the second son (born 1861) of the tenth Earl of Antrim. Educated at Eton and Oxford, he was, from 1888 to 1892, from 1895 to 1899, and from 1900 to 1902, principal private secretary to the Prime Minister of these dates—the Marquis of Salisbury. He had been captain in the 1st London Rifle Volunteers, and he fought against the Boers in South Africa.

"Building-Contract Hardships" is a heading that comes to the eyes in a recent issue of the "Manchester Guardian." It asserts that a section of the building trade is pressing for a Government Bill for relief from the obligation to carry out pre-war contracts to build, and that, as it is stated, are being compelled to fulfil pre-war contracts as if nothing had happened since those contracts were signed. In strong confirmation of this claim, but written, apparently, quite independently of it, is a letter addressed to the Press by Mr. Howell J. Williams, J.P., L.C.C., who describes a case in point. Shortly before the outbreak of the war, the Corporation of the City of London put several sites on the market. At the end of April, 1914, a large site in Gracechurch Street was offered for sale at auction. "To the ordinary business man," Mr. Williams writes, "the atmosphere was absolutely clear of war clouds, and, dreaming that such a catastrophe as a European war was to burst upon our country, I, on behalf of my firm, bid for the Gracechurch Street site upon an agreement to rebuild during peace time, and under the same conditions, having certain arrangements for dealing with it that would have matured and been carried through successfully but for the paralyzing effect of the declaration of war."

When the war broke out Mr. Williams represented the Corporation that, in the altered circumstances, to proceed with the contract would not be in the best interests of the country. Nevertheless, the Corporation insisted upon specific performance, and Mr. Williams then felt that he had "no alternative but to appeal to that higher tribunal, public opinion, in the hope that something could be done by influencing Parliament to make it possible to obtain relief in a War Emergency Court in this and similar cases of pre-war

contracts." It is little short of astonishing to find corporations—or, for that matter, private owners—adhering so obdurately to an attitude that seems morally and logically untenable. As a rule, all that is asked of them is that they should not insist upon impossibilities—that, in common with the contractor, they should be prepared to assume a fair share of the burden. Perhaps the real difficulty is to ascertain what that fair share actually is; and this could only be determined satisfactorily by some such tribunal as that suggested by Mr. Williams, provided that the machinery be not cumbersome, costly, and of dilatory operation. But a War Emergency Court should be clean of these disqualifications. Alternatively some adaptation of the principle of the moratorium suggests itself.

In a lecture on "Architecture in Birmingham and the Neighbourhood in the Last Half of the Eighteenth Century," Mr. Arthur T. Bolton, F.R.I.B.A., naturally took cognisance of the house of his namesake (with a difference that is nowadays without phonetic importance), Matthew Boulton. This house is at Soho, which was a tract of barren heath when Boulton built upon it, in 1762 (Mr. Bolton says 1764, and may be right), at a cost of £9,000, that remarkable factory whose products did so much to enhance the fortunes of Birmingham. Starting on the dubious business of making imitation ormolu and "copying oil paintings" with great accuracy, Boulton applied steam power to his machinery, and, after experimenting more or less successfully himself, invited James Watt, of Glasgow, to enter into partnership with him for the production of steam engines. The prosperity of the undertaking led the partners to establish the famous iron-foundry at Smethwick. Boulton was the inventor of effective machinery for the stamping of coins, and in 1797 he obtained a patent for his practical application of the principle that had been demonstrated by Daniel Bernoulli of raising water by impulse, the result being the hydraulic ram.

What there is of architectural interest in Boulton hinges on the authorship of his house, which Mr. Bolton thinks good enough to preserve as a memorial of the great mechanical genius. Samuel Smiles, biographer of Boulton and Watt, and originator of the great "Get-on-or-Get-Out" school of philosophy, refers to a letter of 1770 from Boulton to Adam, which, however, cannot now be found; and Mr. Bolton thinks that, while the original house may have been by Adam, the present house, which seems to have been reconstructed later than 1770, was probably by Wyatt, who, in 1780, designed a façade for the Birmingham Theatre. Mr. Bolton recalls the interesting and possibly material fact that in 1758 James Adam visited Baskerville in Birmingham and Shenstone at Leasowes. Adam and Baskerville could have discussed most fruitfully the delightful subject of lettering, which was possibly Adam's object in visiting Baskerville, who, having made a fortune in the manufacture of japanned goods, dissipated it in the ill-requited pursuit of a passion for printing.

A welcome instance of the revived practice of making models of projected works comes from Dundee. A model of the proposed new City Hall and adjacent buildings, prepared by Mr. R. Fair, and described as "a fine piece of wood-carving," has been examined by the Town Council Committees, "who greatly admired it." Their admiration might have gone unrecorded by us, but for its psychological significance. Your average burgess is quite unable to read plans, and is not greatly impressed by pictures; but put a model before him, and he instantly shows the interest of a child in a new toy, and is at once won over

for a project that he might otherwise have opposed. It is unfortunate that models are necessarily so much more costly than plans and perspective drawings, than which they are so infinitely more convincing and persuasive. In the States, they extend the principle by making full-size frontages to exhibit in situ! These painted canvas frontages, however, are obviously rather scenic in their effect, and it is very doubtful whether they can convey any clear idea of the appearance that the structure will actually assume in three dimensions. In this respect the small model, in spite of the drawbacks of a reduced scale, would seem to be preferable.

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In recording the visit of a party of members of some society or other to St. Alban's, Wood Street, Cheapside, and St. Stephen's, Coleman Street, the reporter observed that St. Alban's is "one of the two churches built by Wren in the Gothic style." As a matter of fact, Wren built four Gothic towers in London—St. Mary Aldermary; St. Michael's, Cornhill; St. Dunstan's-in-the-East; and St. Alban's, Wood Street," and himself said of them, with the frankness of conscious genius, that "they appear not ungraceful but ornamental to the east part of the City."

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Of these towers, that of St. Dunstan's is the one that is best known, its "scissors-shaped" spire having given rise to the quite baseless tradition that the design was suggested by his daughter; the spire being supported by flying buttresses springing from within each angle of the square top of the tower. To the layman, its delicacy suggests weakness, but Wren was justified in his exclamation, during a great hurricane in London, that "whichever of his towers suffered, it would not be St. Dunstan's." Of the three other towers, St. Alban's is the most original; St. Michael's being an adaptation of the Magdalen tower at Oxford; while in designing the tower of St. Mary, Wren was compelled to adhere as closely as possible to the style of the church that he was called upon not to rebuild entirely, but to restore, much of the main fabric having survived the Great Fire.

HERE AND THERE.

I HAVE been reading some personal reminiscences of McKim, by Mr. Glenn Brown, and I am forced to the conclusion that the holding of a splendid public dinner is the only hope for architecture in this country. The obvious corollary to "A merry heart maketh a cheerful countenance" is "A good dinner maketh a big subscription list." In order to prove the truth of this, let me recount McKim's experience. America's greatest architect was a man who believed in doing things thoroughly, and spared no pains with the smallest details, when they formed part of an important whole. It was in that spirit he conceived the McKim Dinner, the object of which was to gain the interest and influence of men at the head of affairs in the United States. McKim spent seven months preparing for this dinner. He determined to bring together on "the night" the most brilliant and capable men in art, literature, finance, science, and the industrial world, as well as the leaders of the executive and legislative departments of the Government. He achieved his aim. President Roosevelt, the French Ambassador, and Senator Root were present to represent official life, Mr. J. P. Morgan stood for the financial world, Cardinal Gibbons for the Church, Mr. Cassatt for the railway undertakings. A large room in the best

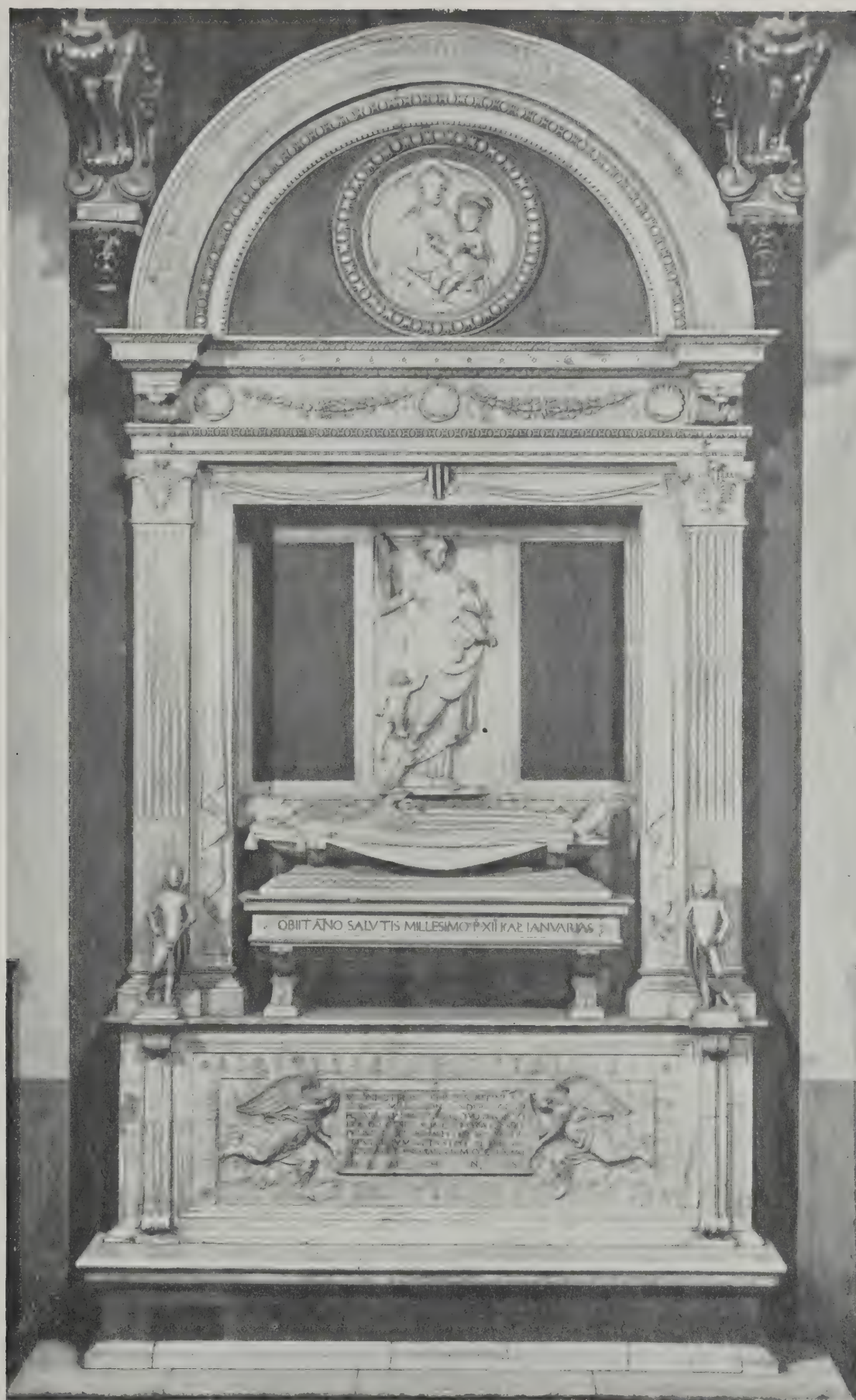
hotel in Washington was completely redecorated for the occasion, and McKim not only devoted the utmost care in having fine dies cut for the invitation cards, but also settled the details of the menu itself and the music which was to accompany it. He chartered a special train to bring his guests from New York to Washington, and to take them home again, and may perhaps have provided a bottle of orange for each one of them. Now what was the result of all this? Here is Mr. Glenn Brown's testimony: "McKim believed in giving the Institute a social as well as an artistic standing in the country, knowing the effective power of the social energies into work for the ideals of the Institute. He wished to impress upon the leaders in the industrial, literary, and official world the importance and value of the fine arts. . . . He determined to make the occasion one that would not be forgotten, one where nothing would offend the taste of the artist, jar the ear of the musician, or vex the mind of the literary man, and still be sumptuous enough to satisfy the wealthy and critical. . . . As immediate result of this banquet were gifts of 600,000 dollars (£120,000) to the American Academy in Rome. The banquet made the Institute known to the distinguished and influential people throughout the United States, and it was a great factor in securing the development of the Park Commission plan. After this event we found it easy to secure attention to our demands. The Institute's success in preventing the placing of the Agriculture Building in the centre of the Mall, where it would have cut off the vista from the Capitol to the Washington Monument; the placing of the Grant Monument in the Ellipse, where it would have destroyed the beautiful view down the river; and the placing of the Lincoln Memorial where it would become an addendum to the Pennsylvania Station, were due largely to the strength of friends made by this dinner. The acquaintance secured by the dinner was a factor in preventing the erection of the House and Senate Office buildings and the extension of the Capitol without a competent architect. Improvement in the practice of the Supervising Architect's office, securing the Fine Arts Commission may be credited to the interest aroused on this occasion. It is an event that is still remembered and is still working for good through those who were present." That is the way to do things.

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The Garden of Eden has been resuscitated in cement; and it is where we should expect it to be in America. Pope's Villa at Twickenham has been described as the work of a Chinaman who fled to Switzerland on his way to Earl's Court, and the author of the new Garden of Eden would seem to have taken Montmartre on his way home to Kansas. Forty-two tons of good cement have been used for his achievement. There is a log-cabin, and as the visitor approaches he sees Adam and Eve with their arched arms over the walk, a large serpent coiled in cement—watching the apple transaction. The garden has seven cement trees about 30 ft. high, and twelve smaller ones, and round about are Cain and Abel, some storks, and the like. One, 8 ft. high, in cement, with a reinforced tail.

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A photograph of the north portal of Reims after the bombardment shows a headless body where there was "the smiling angel," chief among the group representing the martyrdom of St. Nicaise, Archbishop of Reims. This group, like nearly all the others on the lower part of the façade, was not broken and blackened by the bursting of the German shells on the cathedral steps, and by the flames



MONUMENTS. IV.—MONUMENT TO CONTE UGO MARCHESE DI TOSCANA, IN THE CHURCH OF THE BADIA, FLORENCE.
MINO DA FIESOLE, SCULPTOR.



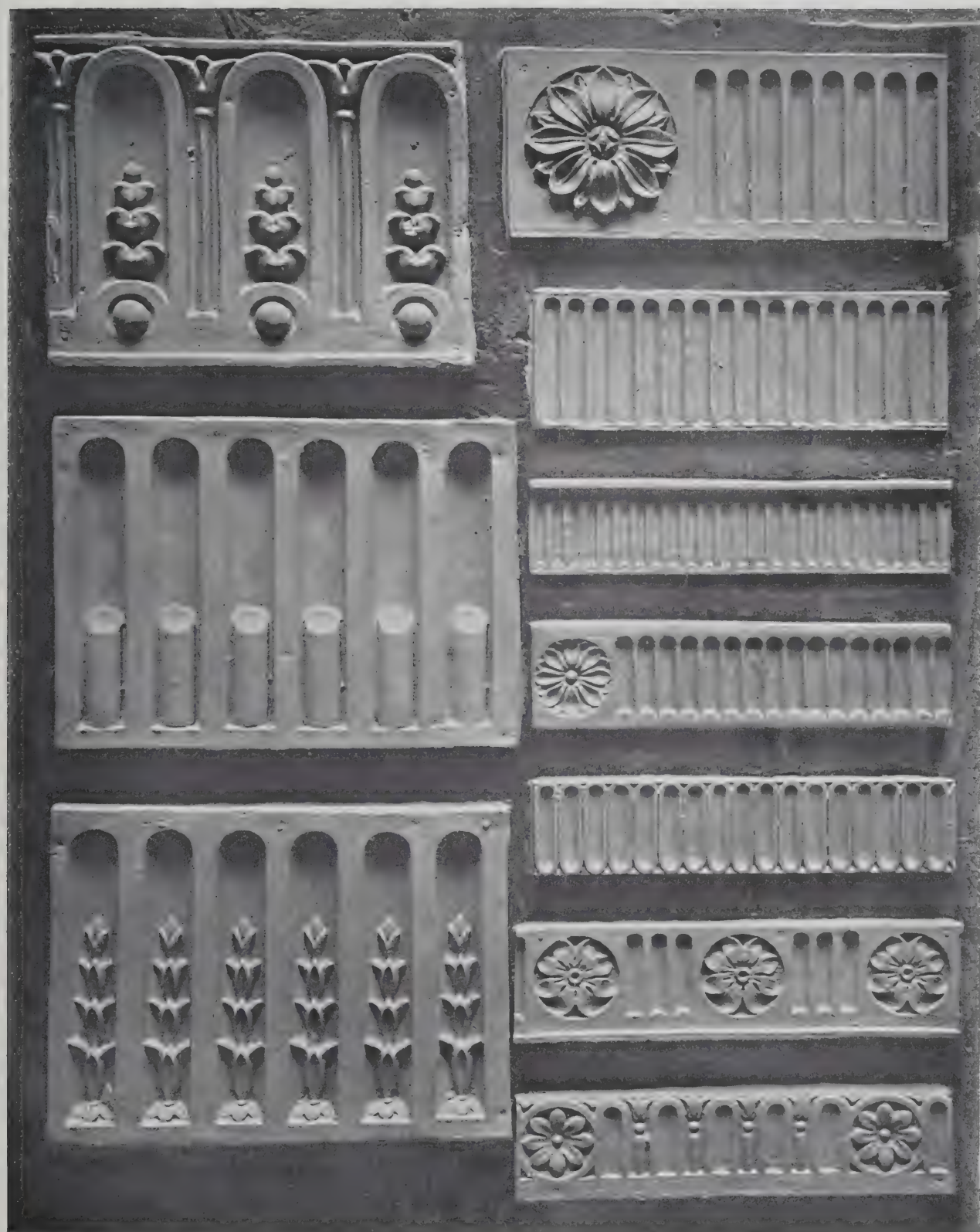
MONUMENTS. V.—DETAIL OF MONUMENT TO CONTE UGO MARCHESE DI TOSCANA, IN THE CHURCH OF THE BADIA, FLORENCE.

MINO DA FIESOLE, SCULPTOR.



CURRENT ARCHITECTURE (SERIES III.) IX.—ALTAR AND REREDOS, ST. MARY'S CHURCH, DOUGLAS, ISLE-OF-MAN.

G. GILBERT SCOTT, F.R.I.B.A., ARCHITECT.



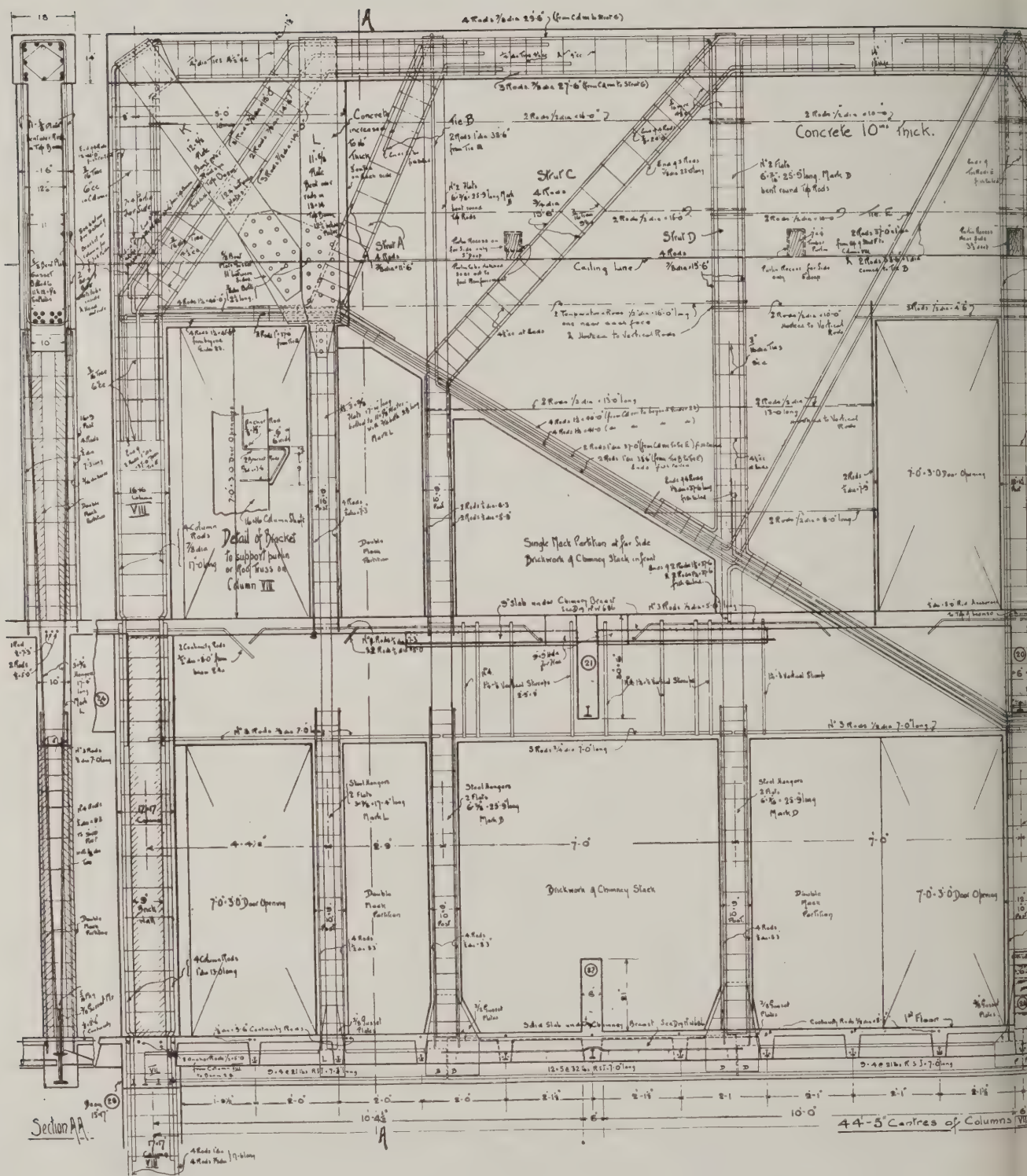
DETAILS OF CRAFTSMANSHIP. XLIII.—PLASTER CASTS OF "GEORGIAN" ENRICHMENTS.



SMALL HOUSES OF THE LATE GEORGIAN PERIOD (SERIES II.). XIII. — GARRICK VILLA, HAMPTON-ON-THAMES.

ROBERT ADAM, ARCHITECT.

LIBRARY
OF THE
UNIVERSITY OF ILLINOIS



ARCHITECTS' WORKING DRAWINGS (SERIES II). XX.—ST. HUGO
BUCKLAND, HAYWOOD AND FARMER, ARCHITECTS

LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

in the burning scaffold outside and the burning of the roof and straw within. When bombardment and shelling were over, the French gathered up all the pieces of glass and carved stone, and put them in a place of safety. But it was rumoured recently that the head of "the smiling angel" had been smuggled away and sold for a large sum to a wealthy American. A Paris correspondent of the Central News, however, disposes of the bad impression created by this story, assuring us that the head in question is "a piece of statuary which has been passing the round of French art dealers for a dozen years or so"; so it is the American who has been "sold," not the head. On the day after the bombardment this was picked up from the débris by a member of the Cathedral Chapter, and it remained in his possession till the American story got current, when the authorities acquired possession of the precious fragment. Mr. G. H. Perris, the special correspondent of the "Daily Chronicle," tells us that he has actually seen the missing head; which is now in the official collection. He adds: "For some six centuries, in fair weather and foul, this little angel smiled upon the good people of Reims, and pilgrims from all over the world. One need not be a votary to call the mere idea of stealing and selling such a precious rarity an abominable sacrilege. The incident is a parable of itself, and should be a warning to any who have dreamed of trafficking, whether in France or the other war-worn countries, in stones that have now been made doubly dear by innumerable sacrifices."

* * * *

"It's dogged as does it," runs the old phrase; and it is splendidly true that is of certain men who, physically defective in some respect, have yet tried and tried again to get into the Forces. Two particular instances are known to me personally, and I would pay tribute here to the fine spirit of patriotism underlying them. The first case is that of my former colleague, Mr. G. J. Howling. He has defective eyesight, and on that account was refused at half a dozen different recruiting offices. But perseverance triumphed in the end, and he got enlisted in the 2nd London Regt. (R.F.). After his course of training here, he went to Malta, then to Egypt, and at the present time is on active service "somewhere in Gallipoli." The second case is that of Mr. A. E. Stan Edwards, M.A., known to many readers by his brilliant essays on architectural subjects which he has contributed to this Journal during the past twenty years. Mr. Edwards suffers from an impediment in his speech, which proved a bar to his entry into many branches of the Service. He made nine attempts to get enlisted in the Army, and was as many times refused. But last week he was accepted as a seaman in the Navy, and he is now training at Portsmouth. Instances like these make a sorry show of those men who, though fit and free to join, do not answer to the call of their country.

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When dealing with the Roman bath at Bath, I found that the roof which covered the hall was a construction of hollow tile, and that the Romans relied on their cement alone to hold the blocks together, whereas in the modern replica of this form of construction, the "Kleine," hoop-iron reinforcement is necessary; leaving the impression on the reader that we of the present day are not such skilled builders as the Romans were, or at least that we do not possess the secret of a cement as hard as the Romans used. In justice to ourselves, however, it should be added that the Roman roof was cambered, and therefore was in no need of reinforcement, whereas the modern construction is flat.

UBIQUE.

THE PLATES.

Monument in the Badia, Florence.

IN the Church of the Badia at Florence there are some wall monuments which rank among the finest of the Italian Renaissance. Prominent among them is the monument to the Count Hugo, by Mino da Fiesole. Architectural composition and sculptured reliefs are here combined with rare skill, and the details of enrichment proclaim the hand of a most talented artist. The monument was executed in 1481.

Altar and Reredos in St. Mary's Church, Douglas.

This is a very characteristic example of Mr. Gilbert Scott's work. A reredos offers an opportunity for the richest ornament, and the architect has here carried it to the fullest extent.

Plaster Casts of "Georgian" Enrichments.

These enrichments are taken from the fine collection of original "Georgian" moulds in the possession of Messrs. George Jackson and Sons, the well-known London firm of craftsmen in plaster. Ten differing patterns are shown on the plate, competing with one another for interest and charm. All exhibit that grace and delicacy which should distinguish ornamental plaster-work.

Garrick Villa, Hampton-on-Thames.

Since Garrick's time this delightful villa has suffered much alteration within, but it preserves its exterior form intact, and a very pleasing composition it is. Robert Adam's work consisted in giving a new face to an old house, and so well did he carry out the task that there is no suggestion of make-shift about it. The house faces the river at Hampton, its lawn—with a little classical garden-house on it—being separated by a roadway.

Reinforced Concrete Truss, St. Hugh's College, Oxford.

This is described in the article on page 253.

The Free Trade Hall, Manchester.

The following notes are contributed by "G. H.":—"Edward Walters was the son of John Walters. When only thirteen years of age he entered the office of his father's assistant, Isaac Clarke. Later he assisted Lewis Vulliamy, and eventually Mr. (afterwards Sir) John Rennie, by whom he was sent to Constantinople to act as architect to the small arms factory which Rennie built for the Sultan of Turkey in the 'thirties. Although Walters came to Manchester just at the time when the well-known architect Lane was retiring from practice, and although he had support from so influential a patron as Cobden, his early struggles were those of an unknown man striving for success. Walters inherited from his father an instinct for dignified architecture, and this led him to follow the 'Pallazzo' model which Barry had previously introduced with such success for his clubs in Pall Mall. One of his most important works was a warehouse in Portland Street, Manchester. At that time there arose a speculative mania for erecting large warehouses, and Walters had the ability to see that such utilitarian structures were capable of being ennobled by the attributes of art: in particular he recognised that there was an opportunity for breadth and repose. In 1853 came the opportunity that Walters needed to demonstrate his ability to undertake work of the first order, namely, the Free Trade Hall. The site for the new building was in Peter Street, practically on the same ground as that of the disastrous 'Peterloo' meeting of 1819. The building was opened in 1856. The façade in Peter Street is 159 ft. in length and 75 ft. in height to the top of the balustrade." The drawing which we reproduce is by Mr. Gordon Hemm.

ARCHITECTURAL ASSOCIATION ACTIVE SERVICE COMMITTEE.

Under this heading last week we published the report of the A.A. Active Service Committee, in which reference was made to letters from architect-soldiers expressing gratitude for the work of the committee. The following extracts from some of the many letters received will show how highly that work is appreciated.

LETTERS.

From a Sapper in the Dardanelles:

I received your parcel of books, also writing book and envelopes, right in the firing line, where we have been working for the last eight days, and the books go from one to the other of our company and are greatly appreciated amongst the men, who are in the best of spirits after four months' good work.

From a Trooper in France:

Thanks very much for the parcels, which arrive with such regularity; they are eagerly looked forward to, much appreciated, and the contents are most happily selected. A woollen cap comforter would be appreciated if sent in one of the next parcels, as nights are getting cold now.

From a Gunner in France:

Just a short note to thank you for the cigarettes and parcel received quite safe. It is, indeed, very kind of you to think of me so often. I am very grateful. I do not know what I should have done without those cigarettes, for a smoke out here is one of the main things. That cake, it was grand, and it soon went after about a dozen had a little bit each.

I must now close, wishing you every success in your good work.

From an Officer in France:

Thank you very much for the papers you send me so regularly. If you could realise how "fed up" we get of war pictures and news you would realise what a tremendous boon your papers are.

From a Corporal:

The short story magazines which you send pass through such a number of hands after I have finished with them that even the publishers would be surprised, both as regards the size of the circulation and the durability of the paper they were printed on. A colleague, who has just returned from the dug-outs to-day, tells me that half a dozen of the magazines which I left there nearly six weeks ago are still going the rounds—a little greasy and ear-marked, perhaps, but legible, which after all is the great thing.

Again thanking you for the parcels; each and everything they contain has been most welcome.

From a Trooper:

Please accept my very best thanks for the parcel safely received. The presents are all extremely useful, and I cannot express my gratefulness to the kind donors.

Very many thanks for your last, which reached me safely to-day. I did not think when I answered your first invitation that these parcels were to be a regular event, and I can only say that I appreciate them very much.

You ask to know whether the mosquito net will be of any use. I should jolly well think it will; flies are our worst plague out here; they swarm around us in thousands, and until your net arrived a piece of newspaper or a handkerchief had to do duty when I wanted an afternoon nap. It created a mild sensation in the camp when I first put it on; they all began babbling about the pretty bride; others said that May 1 was over a long time ago, but when they

saw what it was really meant for they dropped all their glib talk and became envious.

I might also mention that until your parcel arrived a duster was doing duty for a pocket handkerchief.

The work of the Committee is, of course, not confined to members of the A.A. only; its services are available to any member of the architectural or surveying professions. It also does a great deal of work for members of the building trade who have enlisted through the A.A. War Service Bureau.

LEGAL.

Fleet Street Widening—Liability for a Wall.

Pond v. Lord Mayor, etc., of London.

November 26. King's Bench Division. Before Mr. Justice Bailhache and a Special Jury.

This was an action by Mr. G. P. Pond, who had been in business as a chemist at 68, Fleet Street, E.C., for fifty-seven years, against the City Corporation, and Messrs. G. P. Pond, Limited, claiming a declaration that the City authorities were liable to indemnify him for the cost of pulling down and rebuilding the flank wall of 68, Fleet Street, and for damages payable by Mr. Pond to Messrs. Salmon and Gluckstein, whose premises adjoined. As against both defendants, plaintiff asked for a rectification, or alternatively a cancellation of an agreement of February 26, 1914, made between him and the defendants. Defendants, by their defence, gave a general denial to plaintiff's allegations.

Mr. Hemmerde, K.C., appeared for the plaintiff; and Mr. Pollock, K.C., for defendants.

Mr. Hemmerde stated that the action arose out of an alleged breach of warranty given by Mr. Sumner, late engineer to the City Corporation, that the flank wall of 68, Fleet Street, was in sound condition. Negotiations took place with the plaintiff, who referred to a portion of his property for the Fleet Street widening. He had an interview with Mr. Sumner, who stated that the flank wall was perfectly sound, and Mr. Pond need not trouble about it. On this assurance Mr. Pond assented to the alterations. The sum of £2,500 was settled as compensation, and this included £350 for Messrs. Salmon and Gluckstein. Mr. Pond had to enter into an agreement to re-erect Messrs. Salmon and Gluckstein's premises. The Corporation assured Mr. Pond through Mr. Sumner that the wall in Whitefriars Street was perfectly sound. When the alterations were well in hand Mr. Sanders, district surveyor to the Corporation, gave notice to Mr. Pond insisting that the wall in Whitefriars Street should be pulled down as a dangerous structure. The work had to be executed, and in consequence Mr. Pond incurred damages in respect of delay in carrying out the alterations to Messrs. Salmon and Gluckstein's premises.

The plaintiff gave evidence in support of his case, and Mr. Egan, a surveyor, of Lancaster Place, also gave evidence on his behalf.

Mr. Pollock submitted that there was no case to go to the jury on the main issue, and asked for judgment for the defendants.

His Lordship agreed with Mr. Pollock's contention, and thought that the plaintiff had no case to go to the jury. He gave judgment for the plaintiff for £6 qs. 5d., the interest due on the amount of compensation, and judgment for the Corporation on the other issue.

SOCIETIES AND INSTITUTIONS.

Architectural Association of Ireland.

At a meeting of the Architectural Association of Ireland on November 25 (Friday), H. G. Leask, president, in the chair, Professor Steele, M.A., M.R.I.A., delivered a lecture on "Some Towns of Northern France affected by the War." He spoke of the towns first occupied temporarily by the Germans—Rouen, Amiens, Reims, and some others. No harm was done to these towns, at least no serious harm, and the inhabitants rejoiced at their good luck. Views were then shown of Soissons, Compeigne, Reims, and other towns which have suffered grievously from bombardment. The lecture was mainly a description of the Gothic cathedrals of Northern France.

Edinburgh Architectural Association.

The opening meeting of the session of the Edinburgh Architectural Association was held last week. The president, Mr. Forbes Maciennan, A.R.I.B.A., referred to the distress in the profession caused by the cessation of building work, pointing out that if private enterprise in building were entirely stopped, as seemed to be the desire of the Government, the National Exchequer was bound to suffer. They realised, however, that the one all-important thing for the nation was that the war must be fought out to a victorious conclusion. If we did not win, if German Kultur were to be imposed on us, we were dead; but if we did go on to complete victory there was every reason to hope for a great advance in the development of architecture and building in a more peaceful atmosphere than they had ever known. Professor Charles Gourlay, B.A., A.R.I.B.A., of the Royal Technical College, Glasgow, delivered a lecture "Santa Sophia, Constantinople." He referred to the interesting fact that the church, the greatest monument of Byzantine style of architecture, was erected within the area comprised in the site of the ancient town of Byzantium, where the style derived its name. He then showed illustrations of plans and interiors of Greek, Roman, Early Christian, and previously erected Byzantine buildings in order to enable a true appreciation to be gained of the great advance made by the magnificently conceived plan of Santa Sophia, with its beautiful interior, unlike those of any other building then in existence. Because of its size, the church was known as "The Great Church." It was erected for the Emperor Justinian by the architects Anthemius of Tralles and Isidorus of Miletus, between the years 532 and 537, when the Byzantine style was at its culmination; hence its composition and details were of the choicest design and execution. The plan of the church was fully dealt with by Professor Gourlay, and then the exterior and interior, whole being illustrated by a series of lantern views.

Society of Architects.

At the meeting of the Society of Architects, to be held December 9 at 5 p.m., Mr. Herbert Freyberg, F.S.I., will read a paper on "The Conversion of Unwholesome Houses into Compact Maisonnnettes."

Surveyors' Institution.

A paper on "English Timber During and After the War" will be read by Mr. C. Duchesne, hon. secretary of the English Forestry Association, at the meeting of the Surveyors' Institution, to be held on December 13, at 4 p.m.

NEWS ITEMS.

Change of Address.

S. F. Monier-Williams, A.R.I.B.A., civil district surveyor for St. Pancras, has removed to new offices at 43, Tottenham Court Road,

The New Postage Rates.

A most useful little card giving the new postage rates for letters, books, and parcels has been issued by Messrs. Hamptons, printers, 12, 13, and 19, Cursitor Street, London, E.C.

Greenock Housing Project.

Greenock Corporation have adopted a Housing and Finance Committee minute proposing that it be remitted to the Corporation Housing Committee, with full powers, to prepare plans and take estimates for the erection of seventy-five houses of the cottage style on ground near Craigieknoves.

Birmingham Building Scheme.

Subject to confirmation by the City Council, the Birmingham Town Planning Committee has approved an agreement with the Dunlop Rubber Company for the purchase of the Corporation property known as Birches Green estate. The land comprises about eighty acres, and by the terms of the agreement the company undertakes forthwith to erect about one hundred cottages for the use of their employees.

Stamps Wanted for Red Cross Fund.

M. P. Castle, president of the National Philatelic War Fund, invites collectors who have old stamps, collections of stamps, or old correspondence still containing the stamps, to send them to Mr. R. Hausburg, "Heathside," Weybridge, Surrey; to be sold by auction on behalf of the British Red Cross and St. John of Jerusalem. The Fund has the approval and support of H.M. the King.

Housing After the War.

The provision of housing accommodation for the working classes after the war has attracted the attention of a conference of local authority representatives on November 24. The conference was held to consider what should be taken in view of the difficulties in regard to finance and the provision of material. Mr. Cecil Harmsworth, who presided, said they had to face the prospect of dear money, possibly dear labour, and for some time, at all events, a struggle in regard to the competition that must ensue when the rebuilding of Belgium, France, and Poland took place. "Those of us who are not engaged in military service," added Mr. Harmsworth, "cannot do better than devote our energies to making every possible effort and far-sighted plan to meet the exigencies of affairs that will arise when, at last, the war comes to a conclusion."

The Rebuilding of Belgium.

The Belgium Town Planning Committee, whose work was highly praised in the recent Town Planning Conference decreed by the Belgian Government, has arranged a new series of lectures for architects and engineers, taking place at University College, London, on Wednesdays in each week. British members of professional bodies especially those with a knowledge of French, will be welcomed at these and subsequent gatherings. Among those who are giving their services are Colonel R. E. Crompton (Consulting Engineer to the Road Board), Mr. G. E. Taylor, Mr. George L. Pepler, Mr.

W. R. Davidge, Mr. Raymond Unwin (Chief Town Planning Adviser to the Local Government Board), Mr. Aneurin Williams, M.P., Professor Patrick Abercrombie, and Professor S. D. Adshead.

Dearth of Labour.

A large camp is being erected near Richmond, Yorkshire, and as every effort is being made to complete it as quickly as possible so as to provide good homes for the soldiers in training there, a large number of men are required, especially labourers and navvies. It is stated in the "Yorkshire Observer" that the immediate localities being exhausted, the contractors are endeavouring to get men from other parts of the kingdom. Railway fares are advanced through the labour exchanges and are afterwards deducted by instalments from the wages earned. Labourers are paid 7½d. per hour and mechanics 10d. per hour. Double time on Sundays and walking time bring the total up to seventy hours per week. Beds and good accommodation are provided for the men at the camp, and everything possible is done to make them comfortable. Only good workmen will be taken on; those having no knowledge of the building trade need not apply.

AN ALMA-TADEMA MEMORIAL.

A permanent memorial to the late Sir L. Alma-Tadema was inaugurated on November 25 at the Victoria and Albert Museum, and art students will be free to utilise one of the most extraordinary collections of artistic "documents" ever brought together. Princess Louise (Duchess of Argyll), who presided at the opening ceremony, was received by Sir Cecil Harcourt Smith (director and secretary of the Museum) and Lord Curzon, who represented the Board of Education in the absence of Mr. Arthur Henderson, the President. A committee of the late artist's friends, with Sir Edward J. Poynter as chairman and Mr. Frank Dicksee, A.R.A., as honorary secretary, have purchased his art library, which has now been handsomely installed in two wings of the West Room (No. 74) of the Art Library at the Museum, by consent of the Board of Education and with the active co-operation of the director, Sir Cecil Smith. The two Misses Tadema handed the collections over to the committee for just one-half the amount they were offered by the authorities of a big public library in Germany, and have presented Onslow Ford's fine marble bust of their father, which stands on a pedestal designed by himself, and now forms a sort of centre-piece of the memorial. Alma-Tadema was a keen collector of "documents" during the whole of his career. Many in the collection were purchased by him during the 'sixties. There are 163 portfolios, which contain between five and six thousand photographs, drawings, and tracings. These, in their turn, are classified in a most methodical manner. Other portfolios deal with the many details of architecture, while costumes—Assyrian, Greek, Roman, etc.—form, as would be expected, a very extensive and valuable feature of the collection. Five portfolios deal with the gods of classical and other mythology. Temples, theatres, amphitheatres, lamps, and candelabra, Greek, Roman, and Egyptian portraits, constitute other varied and interesting features. Sir Cecil Smith has had a very elaborate synopsis drawn up of the contents of these many volumes, and with this available any single subject can be referred to without delay.

A NOTE ON WALLPAPER.

A lecture on "Wallpapers: Their History, Manufacture, and Design," was delivered recently at the Bournemouth Municipal School of Art by Mr. C. O. Masters, of the firm of Messrs. John Line and Sons, Ltd. Mr. Masters said that wall-papers were believed to have been first made by the Chinese, but the making of wallpaper as it was now known was comparatively recent. It was difficult to find wall-papers of any great age, for the simple reason that it would be necessary that the wall on which they were hung should be intact. He read a description of one of the oldest papers in England, dating from the time of Queen Anne, which was of Chinese origin, and was coloured by hand. At that time wall-papers were prepared in China for export to Europe. The influence of Chinese art prevailed in England for 150 years. In the eighteenth century great progress was made in the printing of wall-papers in France and England. In 1840 the first papers were printed by machinery in England. The lecturer proceeded to give details of the improvements since made in the manufacture, and illustrated the different methods of printing by hand and by machinery. As many as sixteen rollers might be used in one machine, each roller printing a particular part of the pattern. He also described and showed examples of stencil, embossed and other varieties of papers and the technical methods of their production. Coming to the question of colours, he explained that in recent years paper-makers were able to produce any tint, and, by use of body colour, to render them fast to light. The cheaper qualities of papers were printed on a tinted pulp paper, similar to that used for printing newspapers. These papers, on exposure, in time turned to a light brown. His advice, therefore, to purchasers of the cheap kind of wallpaper was to choose those in which the ground was well covered with the pattern. It was necessary also to use discretion in the choice of colours. As everyone knew, there were certain colours which faded much faster than others, green and blue especially, whereas reds and browns retained their tones for a long period of exposure.

NEW MEMBERS OF THE INSTITUTE.

The following new Fellows and Associates of the Royal Institute of British Architects were elected at the meeting held on November 29:—

Fellows.

J. Gordon Allen (London).	Edgar Quiggin (Liverpool).
A. B. Black* (Adelaide).	pool.
J. W. Farmer (Buenos Aires).	Philip A. Robson (London).
J. Edwin Forbes* (London).	J. Duncan Tate* (London).
G. D. Macniven* (Edinburgh).	C. C. Thompson* (Derby).
C. B. Pearson* (Lancaster).	George Wittet,* J.P. (Bombay).

* Licentiates who passed the qualifying examination

Associates.

P. J. Adams (Woodford).	C. E. Nichols (Sheffield).
H. Andrew (Hull).	C. L. Pace (London).
P. F. Balsara (Bombay).	T. Reive (Manchester).
J. Bennett (Glasgow).	M. D. Robertson* (London).
R. Bruce (London).	A. D. Robinson (London).
E. G. Catchpole (Ipswich).	H. R. Sayer (Southampton).
A. McL. Duncan (Glasgow).	A. J. Turner (New Barking).
E. C. Francis (London).	H. F. Walker (London).
J. H. Horniman (London).	E. Williams (Cardiff).
S. H. Loweth (London).	R. S. Wilshire (London).
C. H. Mitchell (Welling-ton, N.Z.).	W. C. Young (Heaton Moor).
E. P. B. Musman (London).	

CONCRETE AND STEEL SECTION

(MONTHLY.)

REINFORCED CONCRETE AND HIGH EXPLOSIVES.*

BY PROFESSOR HENRY ADAMS, M.INST.C.E.

The War has created many new problems for the engineer to solve, and one of these is to find the material of maximum effective resistance to high explosives. It seems to have been demonstrated effectively that concrete, which has been the main standby in modern fortifications, is almost useless in its customary form. The turrets of permanent concrete forts were rendered useless by a few rounds of shells charged with high explosives. From the photographs of the demolished works it appears that, even when the turrets themselves were not demolished, they were fairly blown off their foundation by the complete shattering of the concrete bases. On the other hand, temporary earthworks, and one or two forts heavily supported with earth, appear to have resisted attack by high explosives measurably well. A shell penetrating a few feet into concrete rends the whole mass, while in earth it merely opens a crater, which is partly filled in again by the falling dirt. It was noticed in the American Civil War that an active shoveling party could in a short time repair the damage of a heavy bombardment where an earthwork was concerned. The questions now to the front are whether any reinforcement of the concrete will be of service, or whether a proper choice of earth construction will so muffle the explosives as to make them comparatively ineffective. A few feet of loose dirt, or even of snow, will stop a bullet which would pierce a half-inch iron plate, and the same principle seems to hold good for heavy projectiles. Lieutenant-Colonel Roustam Bek, the talented Russian expert, says: "Engineers do not know any kind of material stronger than concrete and steel for cupolas and other bulwark constructions, but those, as far as we can see, are not sufficiently solid to withstand the terrible fire of the monstrous 16-in. guns. It has always been so, and it is at present, that the technical progress of the artillery has been more rapid than the progress of the engineering art, and the role of the fortress will be unsatisfactory unless its fortification be made impervious to the destructive action of siege artillery."

It is possible, however, that it may be found useful for the interior of forts with sufficient earth protection, as it has already proved valuable in roofing trenches and dug-outs where the earth can be placed on top, and also for side walls in fighting trenches when sufficient time is available.

In the reconstruction of the numberless bridges on the Continent destroyed by the war, reinforced concrete will no doubt be largely used. A reinforced concrete bridge at Soissons was blown up by the Germans in their retreat from that town, but, owing to the great strength and toughness of the material, it defied all attempts at complete destruction, such as was readily effected in the case of the other bridge at Soissons, which was of metal. The former still crosses the river after a fashion, and gangways laid over the ruins give access to both sides.

Another instance of the resistance of reinforced concrete to explosives was given in June last, when an attempt was made to blow up a building in Ontario, where military clothing was being made for the British Army. From information gained by the authorities the charge consisted of twenty-six sticks of dynamite, but the only result was to blow out ten or fifteen feet of a brick retaining wall, damage a concrete slab forming a footway, and shatter the glass of fifty to seventy-five window sashes. The owner expressed the opinion that if the building had been in any other material than reinforced concrete, it would have been a total wreck.

Dusting of Concrete Floors.

Why is it that in two concrete buildings apparently constructed under identical conditions, built by contractors of equal intelligence and integrity, from concrete composed of similar aggregates and the same brand of Portland cement, the floors in one will turn out hard, firm, and resistant to abrasion, while in the other ordinary usage will result in dusting? The fact that numerous dustless concrete floors have been laid seems to indicate that the trouble must lie in the selection, proportioning, mixing, placing, or finishing of the material. The procedure and proportions described below have given excellent results. For first-class work a rich mixture is desirable, say one in which the aggregate consists of granite, or other hard stone, screenings graded from $\frac{1}{4}$ in. down to the finest, and crushed stone of equal quality passing a $\frac{1}{2}$ -in. ring and retained on a screen having $\frac{1}{4}$ -in. mesh. All trowelling and finishing of the floor surface should be completed within two and a half hours from the time the materials leave the mixer. This necessitates mixing the material to such consistency that the mortar has to be scraped from the wheelbarrows, and will hardly flatten out when dumped upon the floor wet enough so that it can be "struck off" with little difficulty when spread out with shovels. The floor usually is in a condition to be trowelled for the last time within an hour and a half or two hours after the finishing course has been mixed. When sufficiently hardened to prevent pitting, the floor should be sprinkled with water until 2 in. of sawdust can be thrown on the surface without injury. The sawdust should be thoroughly wetted and kept moist by sprinkling for a period of two weeks.

A mixture of 15 or 20 lb. iron dust with 100 lb. Portland cement added to twice the quantity of sand applied as a top coat 1 in. thick to a concrete floor is said to render it hard and durable.

Concrete Mixtures.

What may be called the standard mixture for concrete in reinforced work is 1 part Portland cement, 2 parts sand, and 4 parts larger aggregate, by volume, commonly known as a 1 : 2 : 4 mixture. There is a very objectionable practice on the part of some people, who ought to know better, to call this a 1 to 6 mixture, with the result that a builder may have some ground for assuming that he complies with the requirements by using 1 part of cement to 6 parts of combined sand and larger aggregate, which would approximately be a 1 : 3 : 6 mixture, but there is no guarantee of the proportion unless the materials are

mixed separately, 90 lb. of cement being taken as equal to 1 cubic foot.

The study of photo-micrographs of concrete shows that, although standard proportions of the materials are used, the resulting mixture will not be perfect unless these proportions are suited to the voids in the aggregate, and it thus becomes essential to ascertain the voids in any proposed aggregate before proceeding farther. The quantity of water required in mixing concrete will depend somewhat upon the materials, but it appears from a series of experiments that the best proportion is to 27½ per cent. of the mass, although it is rather wetter than we usually make it.

In a curious case that came to my knowledge, gas fumes were given off from some coke breeze concrete floors. The cause seems to have been that the coke breeze was not completely carbonised before being used, and the gas left in it was liberated by the action of the lime pugging filled in between the flooring fillets. The smell was always stronger on humid days; this was accounted for by the pugging being allowed to hold a considerable amount of moisture and so increasing the chemical action. It is another illustration showing the wisdom of following the advice of the Concrete Institute, not to use coke breeze concrete at all.

CONCRETE QUAY-WALL CONSTRUCTION.

At a meeting of the Institution of Civil Engineers on November 30th Mr. Charles Alfred Trery, M.Inst.C.E., described port works which have been carried out under his direction in the Argentine-Galvan Port, Bahia Blanca, a town which lies at the head of a deeply indented bay of the same name. For the quay wall type of concrete cylinder with three walls was adopted. The cylinders were monolithic and were reinforced with vertical and horizontal steel bars. With this method of construction the staging required is comparatively small and can be repeatedly reused; while the fact that the bulk of the sinking can be done while the water is still in, reduces the pumping.

Three sizes of cylinder were used, depths of 30 ft., 25 ft., and 18 ft. respectively, the sections being modified in accordance with the depth.

The softness of the mud, and the fact that it is covered at high water—and in some cases, on the line of quay, at low water also—made it necessary to conduct all operations from an elevated platform above high water, and to suspend the cylinders, during the initial stages of building and sinking, from timber trestles. For lowering purposes, each cylinder was equipped with twelve 10-ton differential pulley-blocks, one to each of the vertical rods of the cylinder.

In carrying out the work the cylinder was first placed in position and a temporary platform was fixed to the bottom underneath, at a height of about 8 ft. below high water. Upon the platform a curb was put together, the vertical rods were attached, and the first two sets of shuttering were placed in position

* Extracts from a presidential address delivered before the Concrete Institute on November 17, 1915.

with special concrete. This was carried out during low water, and the rising afterwards covered the work, which allowed to set for seventy-two hours. Tackles on the gantry above were attached to the vertical rods, and the cylinder was lifted to allow of the removal of temporary platform. The cylinder was lowered to within a short distance of water level, or to the surface of the mud, as the case might be; the lower part was lifted, placed on top, and filled with concrete; the building and lowering then carried on continuously, the cylinder sinking into the mud until the friction rendered it self-supporting, which usually occurred in the case of the cylinders when a depth of about 10 ft. had been attained. The further sinking was effected by excavating from three chambers.

The cylinder was finally bedded in the "calcareous formation" (a calcareous formation very rare in these regions) at 3 ft. 6 in. below the proposed dredging-level, and all chambers were sealed with 6 ft. of concrete. The front chambers above were filled to the top with a rough concrete plentifully helped out with large "plums," the back chambers being filled with excavated material.

To close the opening between two adjacent cylinders a concrete pile is driven in at the back and a timber pile at the front. The piles terminate about 1 ft. 5 in. above water, and the wall has a height of 6 in. above the top of the cylinders, 1 ft. 9 in. wide at the base, and has a ratio of 1 in 20 on the outside face. The wall is of mild-steel plates secured in place by hooks embedded in the concrete. The whole front of the quays is protected by vertical fenders of greenheart timber, the coping down to lowest water-level.

The time occupied in sinking and coming up a cylinder averages about twenty-days, dating from the laying of the concrete. Up to the present some 4,100 ft. of quay-wall has been constructed. The only sand obtainable was not very satisfactory, granite screenings for the concrete were substituted as far as possible. The following general proportions were adopted for the cylinders: Portland cement 1 part, sand $2\frac{1}{2}$ parts, crushed granite $4\frac{1}{2}$ parts; but for the first shutters above the curb 1: $1\frac{1}{2}$: $2\frac{1}{2}$ concrete was used. The front chambers of cylinders were filled with 1: 5: 8 concrete, the aggregate used being selected "black tosca" instead of granite. This "calcareous" was also used for the concrete of wall above the cylinders, the proportions being 1: 3: 5.

L.C.C. REGULATIONS FOR REINFORCED CONCRETE.

Under the heading "Red Tape for Reinforced Concrete"—not a new method of enforcement, but an example of unnecessary officialism—the "Manchester Guardian" publishes the following: In view of the fact that Whitehall is insisting that municipalities being economical, Government departments are not themselves promoting economy as they ought to, and will not even assist local authorities to save. The London County Council give details of a case in point. Regulations have lately been made for buildings constructed with reinforced concrete, and the Council suggested that the Local Government Board should excuse the full publication of the regulations in the "London Gazette,"

which will cost £180. The Council pointed out that it would do as well merely to advertise the fact that new regulations were in force, so that the few who wanted them could buy them at the Council's offices, adding that full publication in the "Gazette" would serve no useful purpose. But though the Local Government Board agrees with the Council that no useful purpose would be served, it insisted on publication. The Council then suggested that a few pounds could be saved if the "London Gazette" utilised the type which the Council already has, but H.M. Stationery Office declines, and so the L.C.C. is obliged in these hard times to spend £180 on what Whitehall agrees is no useful purpose.

A REMARKABLE REINFORCED CONCRETE TRUSS.

It is not generally realised that in building construction where girders are concerned the architect has frequently to deal with loads which, span for span, may be found heavier than those dealt with by railway bridge engineers. We illustrate a case at St. Hugh's College, Oxford, where, although the span is only 44 ft., the load to be carried is nevertheless 162 tons.

The problem to be solved was primarily that of carrying the load across the ceiling of one of the common rooms of the college. The room being only 10 ft. high from floor to ceiling, it would obviously have been impossible to insert a plate girder, which would have projected to a great depth below the ceiling.

As it will be seen by the accompanying plans and cross section, while the corridor on the ground floor is on one side of the building, the corresponding corridors on the first and second floor are moved back

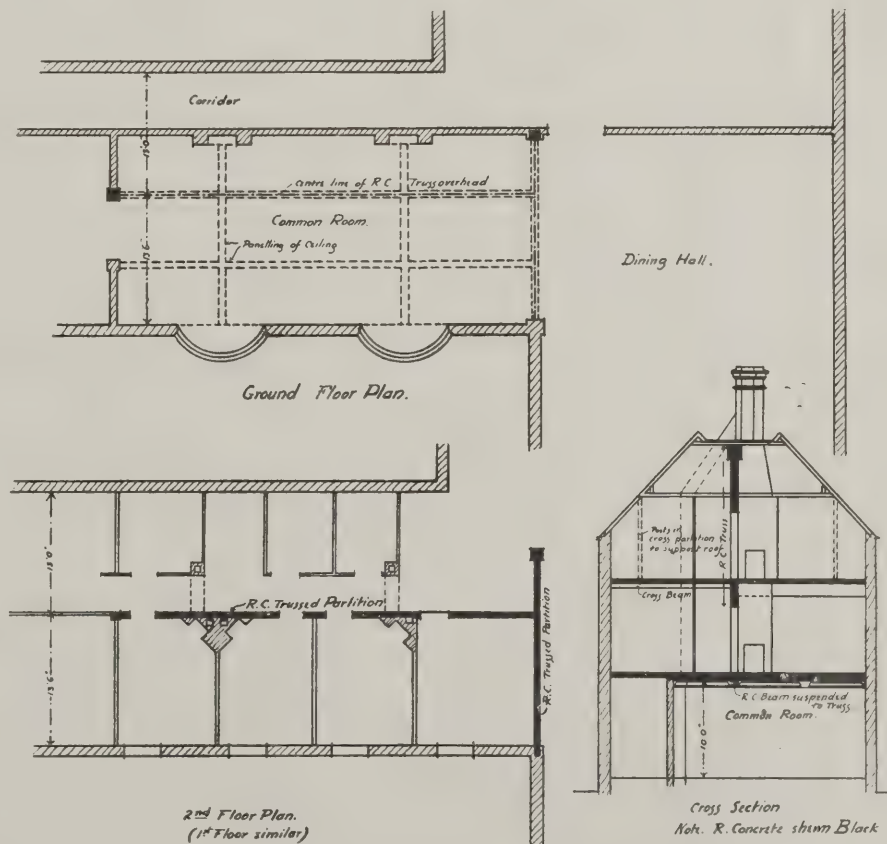
to the centre, so that the partitions, and the very heavy stacks which they carry, come practically dead in the middle of the ceiling of the common room. Advantage was therefore taken of one of the corridor partitions to embody in it a reinforced concrete truss, and provision was made at the same time for carrying all floor and roof loads on this particular partition. The triangulation of the truss was, of course, influenced very largely by the door openings, and as, on account of these, it would have been impossible to extend the truss through the first and second storeys, an ingenious expedient was resorted to which placed the bottom boom at the point of greatest depth below the second-floor level, the first-floor loads being entirely suspended up to the truss by tension members which act as hangers.

Owing to difficulties arising from the position of doorways, it will be noted from the double-page plate in this issue that the depth of the truss is considerably reduced at the left-hand abutment, where, in fact, it is not much more than a third of the full depth in the centre, and a similar reduction in depth is provided for, in a less marked degree, at the other end of the truss. This has an obvious effect on the stresses, and, as will be seen from the diagrams, has been considered in two different ways.

Frame Diagram No. 1 shows the end of the tension boom horizontal, while in Diagram No. 2 the possibility of the stresses from the tension boom being transmitted to the abutments by a diagonal member is dealt with.

Each of these two systems of completing the truss at the point nearest the abutment is embodied in the design, and this provision incidentally provides for shear reinforcement at the abutments, which it would have been difficult to provide otherwise.

From the plans it will be observed that this heavily loaded truss has for sole sup-



ST. HUGH'S COLLEGE, OXFORD.

port at one end another reinforced concrete truss at right angles to it, which considerably adds to the boldness of the scheme from an engineering point of view.

St. Hugh's College has been erected this year from the designs of Messrs. Buckland, Haywood, and Farmer, of Birmingham. The contractors were Messrs. Wm. Moss and Sons, of Loughborough, the reinforced concrete details being by Mr. H. M. de Colleville, reinforced concrete specialist, of 48, Bedford Row, W.C.

PRESERVING STEELWORK.

After the trial of innumerable paints and preservative reagents of all kinds, the conclusion is now being reached that a good coating of cement or cement-concrete affords one of the very best methods of guarding steel against rust, and in some recent buildings steps have been taken to embed all the exposed metal framework in Portland cement concrete, or to cover it with a layer of liquid cement. It is possible by means of a simple piece of apparatus (the so-called "cement gun") to drive a spray or jet of cement against any exposed surface, and with a little precaution in using this system a dense and uniform layer of this material can be spread very rapidly and evenly over the metal. When once this coating has been applied, it is found to adhere very perfectly; to be free from cracks which might be liable to admit the penetration of moisture; and to afford a cheap and efficient means of protecting the metal-work from decay. It is perhaps too early yet to assert that a lasting and durable preservative system is thus afforded, but the plan is no doubt one which will have the careful attention of engineers and architects.—From the "Times" Engineering Supplement.

BUILDING CONTRACTS UNDER WAR CONDITIONS.

In the twenty-eighth annual report, 1914-15, of the Sheffield, South Yorkshire and District Society of Architects and Surveyors, just issued, reference is made to the subject of building contracts under War conditions. The report says:

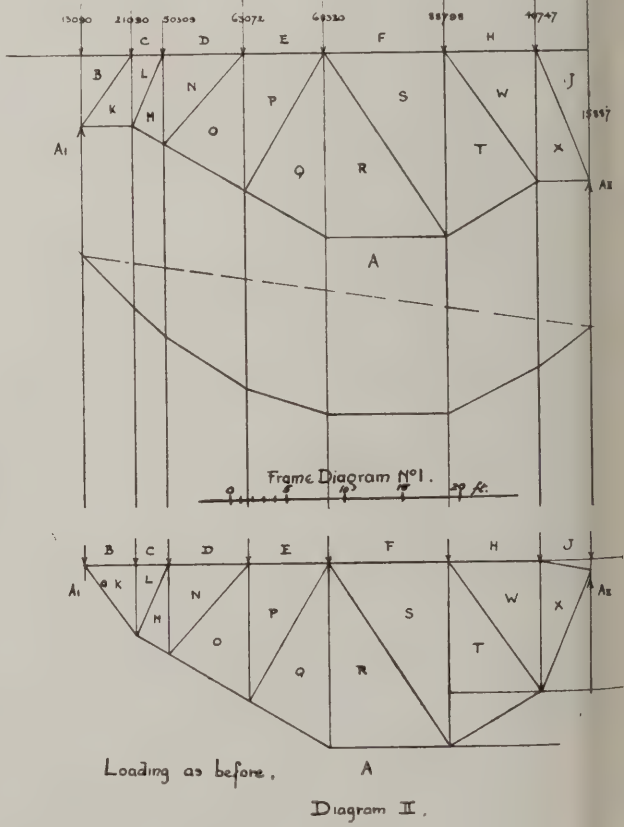
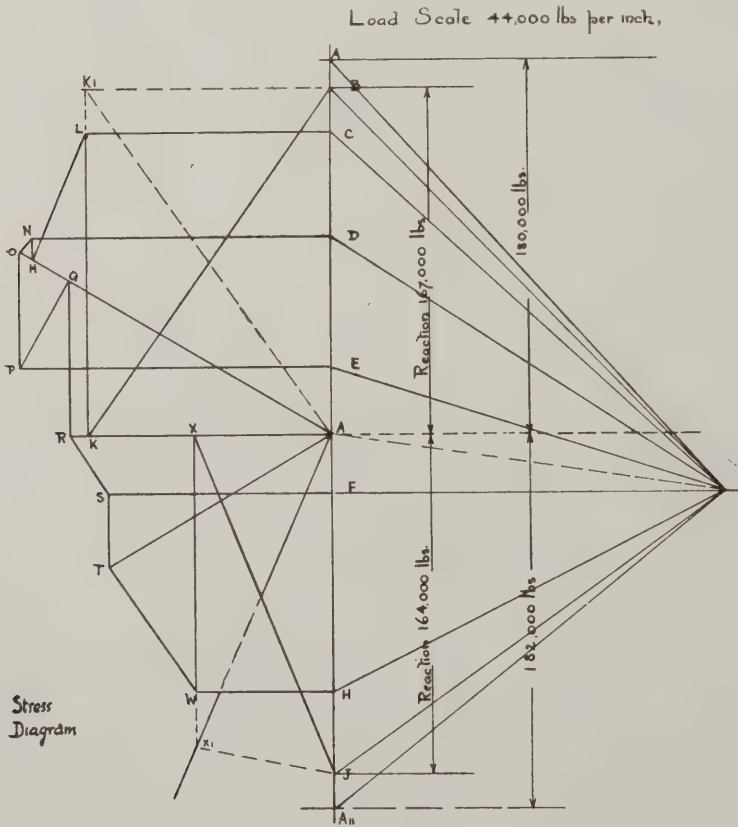
The gradual rise in the prices of certain materials, and the difficulty of obtaining supplies in sufficient quantities or without great delay, are, perhaps, the most serious matters with which contractors have to contend at the present time, and which prevent them from tendering for new work with any degree of satisfaction. The representative of the Master Builders' Association have taken a reasonable attitude so far as their position is concerned, and have frankly admitted that, as regards contracts entered into before the War are concerned, the contractors have no legal claim for extra payment to cover the additional cost of materials. They ask, however, that architects will bring the circumstances to the notice of their clients, and urge them to consider the position of the contractors as favourably as possible. At the same time, they realise that the building owners have been seriously affected by the War, and that they cannot be expected to meet the contractors at all points.

With regard to new contracts the case is different. Two courses at least are open. One, that the contractors should put on a price for their work which would cover any probable rise in the cost of materials and labour; the other, that an agreement should be made between the parties whereby fluctuations in the market prices of materials would be taken into account when arriving at the final settlement of the amounts due to the contractors. The first method might cause

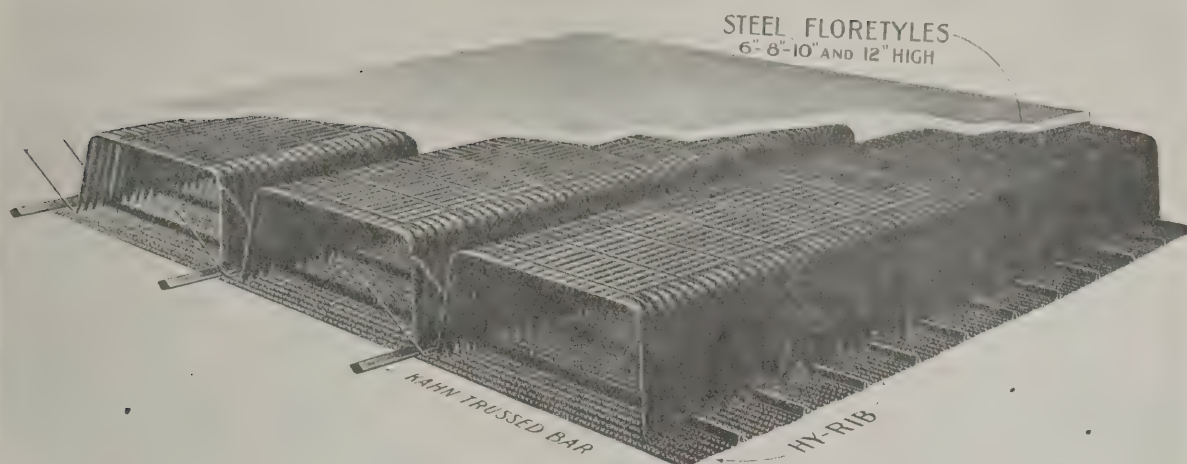
such a rise in the estimates for works as would necessitate the suspension of all but those of an urgent nature. The second method, while at a first glance presenting many difficulties, is probably the more desirable, and certainly the more equitable arrangement in the interests of both building owners and contractors. There is one drawback, however, and that is the uncertainty which would arise with reference to the ultimate cost of the work. This should not be a serious difficulty, for the rise in prices up to the present time has not affected the total cost of an ordinary building to an extent of more than from 5 to 10 per cent., a limit not likely to be exceeded in the future during the time of execution of an ordinary contract.

Briefly, the proposal would work as follows: On the acceptance of a tender, the prices of materials as shown in some publication, would be taken as the basis, and any rise or fall in prices shown in subsequent issues of the same publication during the progress of the contract would be taken into account at the final settlement. To obviate the difficulty of dealing with trivial alterations, it would be necessary to agree that rises and falls within certain percentage of those selected as basis should not affect the final account but that rises above that percentage should be credited to the contractor, and reductions below it to the building owner. Local prices of materials would be taken in all cases in arriving at the original estimates, but to avoid disputes, the variations, if any arose, would be based on some standard such as that mentioned above. The Council is informed that proposals of this nature have been adopted in certain cases, and members are recommended to give them their careful consideration when arranging contracts for new work.

[With reference to pre-war contracts build, see an Editorial comment on 247.]



REINFORCED CONCRETE TRUSS, ST. HUGH'S COLLEGE, OXFORD.



REINFORCED CONCRETE FLOOR CONSTRUCTION WITH HOLLOW STEEL TILES.

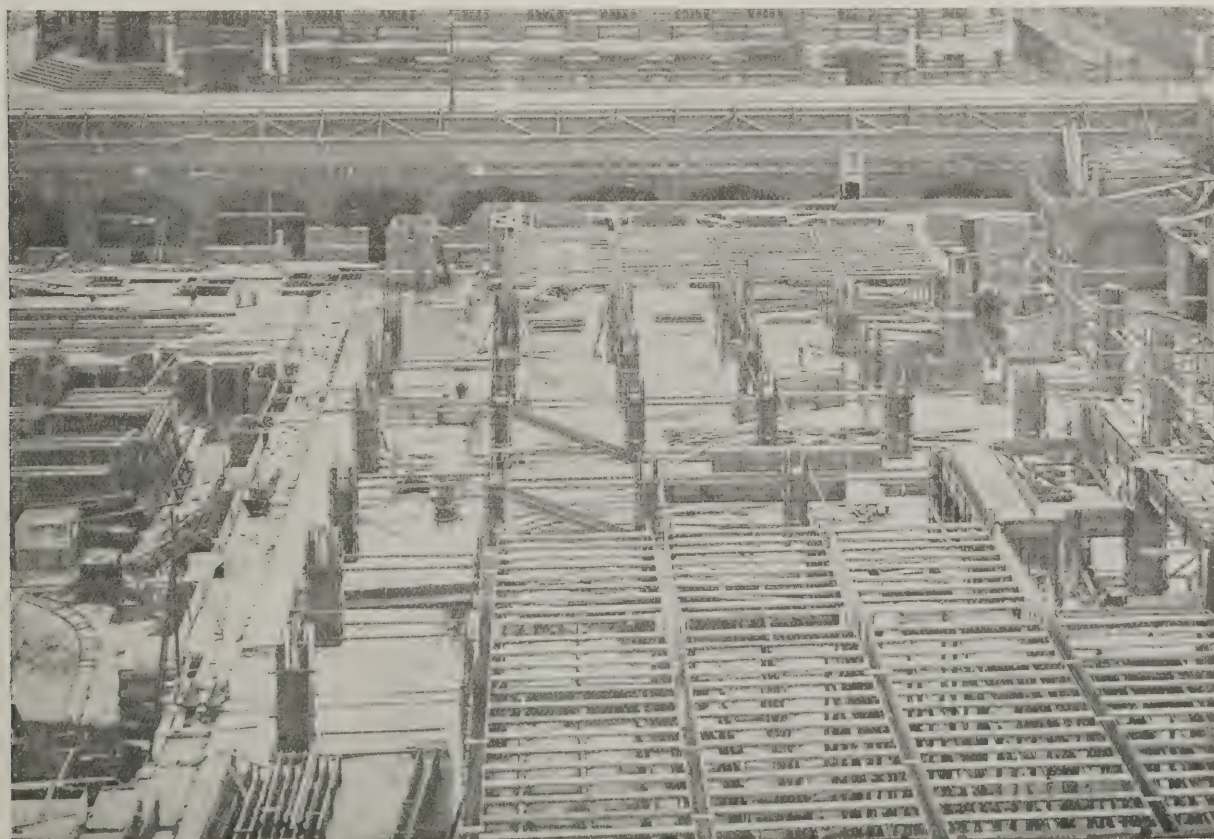
NEW TYPE OF REINFORCED CONCRETE FLOOR.

The accompanying illustrations show a new type of floor which has been extensively adopted in the United States and is now being introduced into this country. It consists of rows of specially manufactured hollow steel tiles covered with a thin layer of concrete and separated by reinforced-concrete joists. These deep joists carry the loads directly to the supports, the floor tiles acting merely as fillers, saving concrete. Reducing dead weight, simplifying the centering, and reducing a general economy throughout. The underside is covered with Hy-Rib, which is then plastered to form a flat surface.

The centering or falsework required with this form of floor construction is very simple. Instead of the customary close-boarded centering cut up with secondary beams, necessary with the ordinary solid concrete floor, the centering is open, a flat board being placed only under each of the reinforced-concrete joists. As these joists are spaced about 22 in. apart, a considerable saving in the sheeting is effected. The construction is very light. A single tile covering an area of 6 sq. ft. weighs no more than 1 sq. ft. of solid concrete floor. As a consequence a man can lay 6 sq. ft. of steel floor tile in the same time that he can lay 1 sq. ft. of solid concrete floor.

Although this form of construction is comparatively new, it has already been adopted in several important buildings in

this country—notably at the new offices for the Cunard Company at Liverpool (Messrs. Willink and Thicknesse, architects), a structure twelve storeys high and containing ten acres of floor area. The illustration below shows the method of centering adopted. Timber joists are carried on 22-in. centres by cross bearers, and on the top of each joist is placed a flat board 7 in. wide to carry the reinforced concrete joist. The Hy-Rib is then laid over the open boarding. The hollow steel tiles are put in rows with 4 in. space between each row, and in this space the reinforced steel is placed, and the concrete poured to form the reinforced-concrete joists. After the centering has been struck there are large areas of flat ceilings with spans up to 30 ft., the soffit being quite unobstructed



CUNARD BUILDING, LIVERPOOL: VIEW SHOWING TIMBER CENTERING FOR HOLLOW STEEL TILE FLOOR.

and so allowing secondary beams to be placed in any desired position.

A careful record was kept of the cost at the Cunard building, and upon completion of the work the contractor stated that in his opinion the adoption of this form of floor resulted in a net saving of several thousands of pounds to the owners. He was also enthusiastic over the speed of erection which he was able to attain.

This type of hollow floor construction is also being used at the new offices in Lower Regent Street, London, for the Commonwealth of British Columbia.

Perhaps the greatest field for its use is with buildings of skeleton steel framework. In such buildings the main steel members support the hollow steel tile floor. Owing to the light weight of this floor the framework can be designed with much smaller members, the size of the columns is considerably reduced, and the loads coming on the ground are likewise reduced, thus resulting in smaller foundation bases for the columns.

The floor is being introduced into this country by The Trussed Concrete Steel Co., Ltd., of Caxton House, Westminster.

VULCANITE ROOFING IN THE "RUSKIN HOUSE" FIRE.

That Vulcanite roofing is eminently fire-resisting, even when used as a covering for wood roofs, has been demonstrated on many occasions. As applied to flat roofs, Vulcanite can be depended upon to afford effectual resistance to fire from within or without, and the material is, besides, completely waterproof. With respect to the recent fire at "Ruskin House," Rochester Row, Westminster, we have already published the testimony of Messrs. William Morris and Co., that, although the fire broke out on a floor stored with highly combustible materials (picture frames, etc.), which burned so fiercely as to prevent the firemen getting at close quarters, it was nevertheless confined to one floor, and could not break through the Vulcanite roof. We publish below an illustration showing the soffit of the roof after

the fire. The boarding was only weakened, except around the lantern light, where it was partly consumed owing to the breaking of the glass, allowing combustion, and in spite of the area of the roof being 475 yd., it was only found necessary to reboard and cover 150 sq. yd. with Vulcanite, whereas, if a metal roof had been used the whole would have had to be rejoisted, boarded, and covered. As it was, the Vulcanite roof-covering (in which there are no drips, rolls, or open joints to create a draught to encourage fire) played an important part in stifling a conflagration that might otherwise have destroyed the entire building. The manufacturers of Vulcanite patent roofing are Messrs. Vulcanite, Ltd., whose London offices are at 118, Cannon Street, E.C.

OBITUARY.

Mr. Mark Fawcett.

By the sudden death of Mr. Mark Fawcett, one of the managing directors of the Fawcett Construction Co., Ltd., the building industry loses one of its most striking personalities. Wherever he went his leonine head, handsome face, and powerful frame rendered him a conspicuous figure, and architects enjoyed his unfailing geniality and cheery humour no less than they respected his thorough knowledge of every detail of his business, and his rare mechanical knowledge and ingenuity. With respect to the Fawcett Construction Co., Ltd., of 47, Victoria Street, Westminster, it is announced that Mr. Brett A. Elphicke, who has been responsible for the active part of the business during the past few years, will remain as sole managing director, and that there will therefore be no change in the management of the company, whose business will continue to be carried on as in the past.

Waterproofing a Water Tower.

The Wholesale Co-operative Society's architect (Newcastle) reports that the water tower connected with the new West Hartlepool Co-operative buildings has been made watertight by using Pudloed cement.

ARCHITECTS OF SOUTH AFRICA

The September issue of the "Journal of the Royal Victorian Institute of Architects (Melbourne)" gives an abstract of a paper on "South Africa: Its Architecture and Architecture," by Mr. William Lucas. The outstanding personality among the architects who had to do with the making of South Africa was, he said, Herbert Baker, whom Rhodes had substantially supported in earlier days, and whose influence was unusually extensive and powerful, both personally and through various partners in different cities. For instance, the Union Buildings, costing about £1,000,000, had been entrusted directly to him, the Public Works Department supporting the erection. In Arthur and Walter Reid, men passionately devoted to Institute affairs, professional life had been greatly aided. Parker held the proud position of first Mayor of Greater Capetown. A more versatile man than Methven one could hardly meet. He knew the construction of harbours and piped organs and exhibited his paintings at societies' functions, as well as practising architecture. Hudson, Street-Wilson, Ing Milne and Sladdin, McGillivray and Grant, and Wellman were among the worthies. Sinclair, almost African-born, was one of the most energetic of the younger men; while Ivor Lewis, another of the younger set, had had a strenuous career. Emley was one of the few still in practice who had contributed refined designs to Johannesburg throughout its whole past life. Beardwood, perhaps stronger on the practical than the artistic side, had been very active in Institute affairs; while Veale and his partner, Waterson, had done much for fellow-practitioners, as well as some of the ablest work in the country. Jones and McWilliam, of Port Elizabeth, and White-Cooper, of Cradock, were men whose work would hold its own in the larger centres. Stucke was a tremendous worker with a continuous large practice who lived in a most simple way. Haw and McKinley had been the outstanding successful firm in recent competitive successes, gaining five big structures in seven years. Occasionally a London architect was announced as having in hand a commission, with a local supervising architect; the latest intrusion in this direction being the Art Gallery at Johannesburg now in erection from the design of E. Lutyens.

Some Australians had left tangential evidences of their architectural powers in various cities of South Africa. Howden Treeby, Black Brothers, and Lucas, who had respectively secured important and extensive commissions in public competition, were, earlier in life, known to the Royal Victorian Institute; while Waugh, who was head of the architectural section of the Johannesburg Municipal Corporation, was one of the earliest students of the Victorian Institute.

As to the Dutch section of the community, the church architecture of the South African Dutch loomed large with them as a people, and in many a small town one saw a church of a size and character that seemed to British eyes out of all proportion to the needs of the case. Leaving open to public competition many of these church schemes, both British and Dutch had been greatly benefited. De Witt at the Cape, and de Swaan in the Transvaal, architectural work had been appreciably augmented. An Anglo-Dutch blend mingling the best characteristics of both nations may be anticipated.



FIRE AT "RUSKIN HOUSE," ROCHESTER ROW, WESTMINSTER.

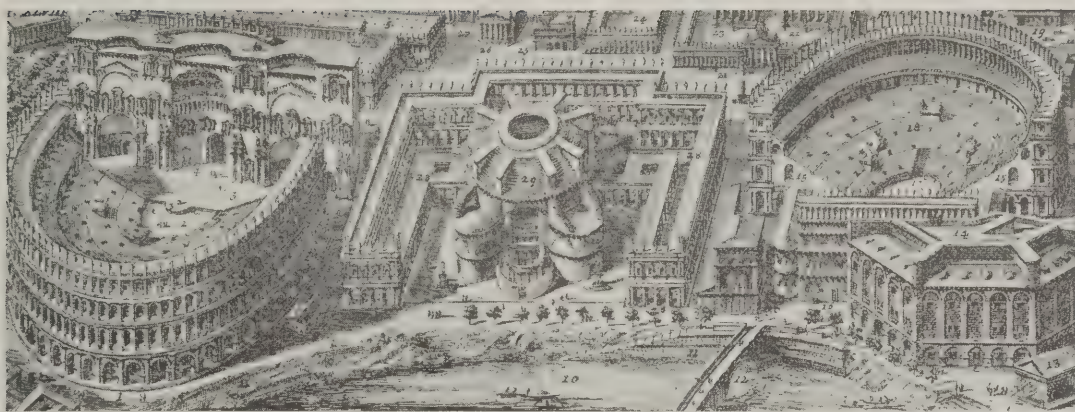
View of Soffit showing how Joists and Boarding remained in position under Vulcanite Roof.

THE ARCHITECTS' & BUILDERS' JOURNAL.

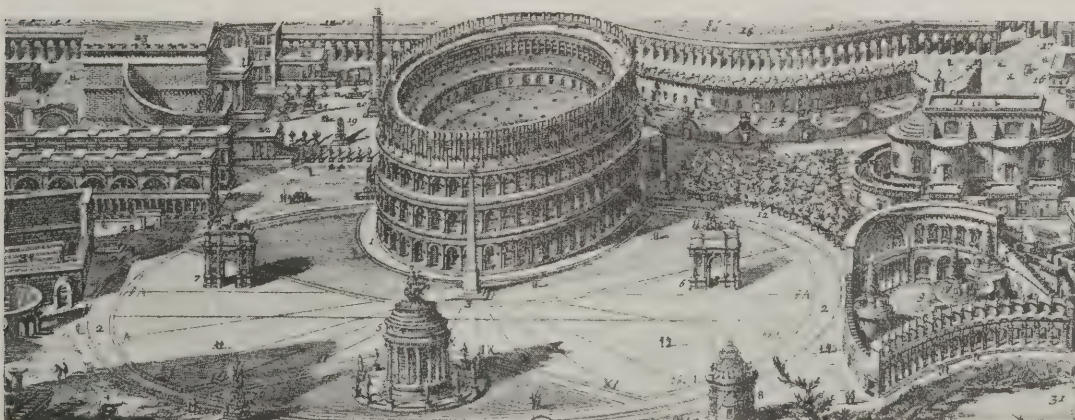
Wednesday, December 15, 1915.

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No. 165.



THEATRES OF BALBUS AND MARCELLUS.



THEATRE STATILIUS TAURUS, ROME.

(From Piranesi.)

THE ARCHITECTS' & BUILDERS' JOURNAL.

DECEMBER 15, 1915.

TOTHILL STREET, WESTMINSTER.

VOLUME 42. No. 1093.

EDITORIAL.

AN important point has been gained by the Civic Arts Association. They have enlisted the sympathy of the Lord Mayor of London in the movement towards artistic expression in war memorials. Delegates from the Association who went with this object to the Mansion House last week included Mr. George Clausen, R.A., and Mr. John Lavery, A.R.A., and were introduced by Mr. Edward Warren, F.R.I.B.A., who, assuming that at the close of the war there would arise a great demand for national, regimental, local, and domestic memorials of those who had fallen, urged that it was of the greatest importance that such memorials should be excellent both in design and workmanship. "They might," said Mr. Warren, "often take the form of public buildings, such as recreation halls, or of small collections of beautiful objects for schools. There was thus a great opportunity of bringing into prominence the advantages of order and beauty and town planning." Mr. Warren has our suffrages; because we were early to seize every opportunity of putting forward the selfsame pleas. We are therefore especially glad to note that the Lord Mayor has consented to preside at a public meeting to be held by the Association at the Mansion House on January 28. Like Mr. Warren, also, we have supported doctrine with practice. In this Journal, but more especially in its companion publication, "The Architectural Review," we have shown scores of illustrations of the notable war memorials of all periods and of all countries, and it is believed that this is the first representative collection of its kind. We are glad to know that architects, and designers generally, have found it not merely interesting but of direct practical utility in suggesting *motif* and treatment, and sometimes in supplying detail. As to the legitimacy of turning old details to new uses, we make no manner of doubt. If it is done with artistic discretion, base is the slave that calls it "cribbing." "To crib" is to copy slavishly and flagitiously, and hence to deserve the birch; but to catch inspiration or stimulus from some beautiful ideal, or to adapt to fresh and appropriate ends some delightful structural or decorative feature, is simply to pursue the path Ictinus trod, and all great artists after him.

There will always be small-minded people who confuse felicitous adaptation with paltry theft. They would rob Shakespeare of half his merit because he borrowed all his plots. Yet what is scholarship but an intimate and extensive knowledge of resources? and what is art but the deft handling, the happy readjustment of known materials and conceptions? It has been said that "no man ever invented, still less created, anything." It is a fine wide-sweeping fallacy, having in it the indissoluble atom of truth that to strain after absolute originality is to pursue a will-o'-the-wisp. Something material to work upon, the artist's mind

must have. It cannot "bombinate *in vacuo*"; and would have the hardihood to pit the narrow out against the wide horizon?

Something rather resembling that reactionary attitude is apparent in an article in the "American Architect." Mr. March Phillipps must have infected with his pet obsession the American writer who invokes the spirit of mediævalism: "There is in busy classes of a modern architectural school little the close personal relationship between master and pupil that developed the great architects of the Renaissance—a relationship that must have fostered transmitted from one generation to the next idealism of architecture." An American, of all men, should realise that "The mill will never grind with water that is past." Modern conditions have rendered generally impossible the "close personal relationship" between architect and pupil, master-craftsman and apprentice, that, for purposes of dialectic, is conveniently assumed to have subsisted, and probably not, except in instances that were then even more than they are to-day.

Besides, a youth may go to an architectural school without alienating his spiritual father. But, granting that it may be an immense advantage to what Webb was to Inigo Jones, or Gibbs to Wren, much too late in the day to deprecate that collegial method of education which is in essence an extension, an amplification, and a scientific or systematic development of the pseudo-paternal tradition, plus three substantial advantages—the ability of the experienced teacher to impart knowledge in the most effective way; the extensive collection of documents, data, apparatus; and, perhaps best of all, the stimulus of emulation arising from the congregation of youths pursuing simultaneously a common study. The association in this way is in itself a liberal education.

Again, what are the chances that the budding G will meet the paternal and accomplished Wren? may, by extraordinary good luck, sign articles to an architect who is accomplished but not educationally paternal but not accomplished; and if he happens to come under the influence of the man or superman possessed of both qualifications, he would be prompted by his chief to supplement his office training with a course at one of the schools. After all, the development of genius hardly comes into the question, which relates mainly to making the best of the average natural man. There can be no doubt whatever as to the surest means of doing this we must look to the schools; and those pessimists who have frequently expressed their fears that education represses genius

it as reasonably contend that an architectural ing is fatal to the fighting spirit; on which point ills of honour testify.

* * * *

will be remembered that, amongst the correspon- (reproduced in this Journal of November 17, 1915) between the R.I.B.A. and the Government with reference to income-tax, there was a letter in which the secretary of the Institute asked Mr. McKenna to state the position of architects and other professional persons in relation to Clause 35 (c) of the Finance Bill, 1915. That clause, the secretary pointed out, specifically exempts from payment of the "excess war profits" tax "any profession the profits of which are dependent mainly on the personal qualifications of the person by whom the profession is carried on and in which no capital expenditure is required or only a small expenditure of a comparatively small amount." Thus far, the clause clearly exempts the architect, but its continuation created an ambiguity, for it went on: "but including the business of any person engaged in commissions in respect of any transactions or contracts," etc. This seemed just as clearly to implicate the architect, but the reply to the secretary's letter cleared the harassing doubt at rest. "It is not intended," the reply runs, "that profits arising from the exercise of a profession, the remuneration of which happens naturally to be calculated on a percentage basis, should be included in the scope of Excess Profits Tax." That is definite enough with respect to the Chancellor's intentions, to which, with trust, due effect will be paid by administrative agents.

* * * *

Canadian correspondent of the R.I.B.A. Journal asks the question of the deleted alien "hon. corresponding members." He disarms criticism and enlists sympathy with this simple statement: "I have just lost my only son in the Belgian trenches while fighting for the Empire with a Western Canadian hon." Then he goes on to say, "I was always of the opinion that Art had no geographical or racial boundaries: all artists, no matter what nationality, are artists: and until it can be proved that these German and Austrian hon. corresponding members, whose names were honourably entered on the roll of the R.I.B.A., have been incontestably proved to have (1) been engaged in destroying the ancient monuments of France or Belgium; (2) are actually fighting against the Empire; and that willingly: (3) (and probably the most important) have used their connection with our Institute to our detriment, I should hesitate—and hesitate long—before taking the drastic step" of deleting the alien-enemy names. "Until you prove that these men have done something to sully the honour of the Institute or their own honour, which is up the honour of their membership, you must deal with them in moderation and in common-sense only." (And even afterwards, surely.)

* * * *

This gentleman is a great deal too insistent upon the positive, and forgets all about proof presumptive. He ignores also the psychology of his subject; and he leaves away his case in two sentences: "No man is admitted to the R.I.B.A. as an honour conferred on him." He at the same time confers an honour on the Institute, because if he brought no honour the Institute would have none of him." The Institute has decided to have none of him" because he has ceased to bring honour, and because it is humanly impossible to separate him from the race to which he belongs, or to regard him as other than *particeps criminis* in its awfully dishonourable deeds. It is sentiment, not logic, that rules the world. Kindly sentiment excluded the alien, and outraged sentiment disowns the Institute. The Institute is not an etherealised academic institution; it is an incorporation of human beings,

who, sickened to the soul by the disgusting brutality with which the enemy are conducting this war, are much more strongly inclined to take every means of showing their natural resentment than to split hairs about individual responsibility. Against the overwhelming flood of feeling impelled by the inhumanity of the Huns it is idle to oppose anæmic talk about artistic brotherhood. It is enough that the offensive names have been expunged to the gratification of every full-blooded member of the Institute, and that public opinion is heartily in accord with the act.

* * * *

A few rather important amendments to the Increase of Rent and Mortgage Interest (War Restrictions) Bill were accepted when the House went into Committee on the Bill last Wednesday. Clause 1, which would have limited the operation of the Bill to certain areas, was immediately dropped, and the Bill therefore becomes applicable to the whole country, thus eliminating the possible risks of delay consequent on procedure by order-in-council. Sir H. Craik suggested an amendment to Clause 2, which would make the Bill operative from the date of its passing instead of from August 3, 1914, but Mr. Long resisted the amendment on the ground that it would favour the man who had been in a hurry to raise his rents, and would put the more generous at a disadvantage. The amendment was negatived. An amendment to permit building societies to increase the rate of interest on mortgages was withdrawn. An amendment providing that a landlord should not be allowed to increase rent on account of improvement of or structural alteration to a house until a Fellow of the Surveyors' Institute had certified to the expenditure, and the landlord had delivered a copy of the certificate to the tenant, together with a notice of his intention to increase the rent, was negatived. Mr. Chancellor was successful with his amendment to the effect that on the transfer of any burden from tenant to landlord, a consequent revision of the rent should not be held to be an increase, provided the terms became on the whole more favourable to the tenant. A new subsection, proposed by Mr. Long, and adopted, permits the landlord to increase rent by the amount of any increase in rates. An amendment by Mr. Barnes, providing against arbitrary ejectment of tenants, and another by Sir G. Cave providing that the calling in and foreclosure of mortgages should not apply where the principal was repayable by periodical instalments extending over not less than ten years, were accepted, and progress was reported.

* * * *

With reference to some observations made in these columns last week on certain of Wren's churches, it may be usefully noted that in the issue of "The Architectural Review" for December Mr. G. E. Francis, A.R.I.B.A., continues his account of "The Renaissance Steeples and Spires of London." Eleven fine photographic views accompany the text, in which many comparatively or wholly unfamiliar facts enliven an article that is replete with architectural interest. Mr. Francis, who, it will be remembered, was a very successful A.A. student, joined the Royal Engineers soon after the outbreak of the war, and is now in the fighting line in the Western Theatre of War. "Memorials of War"—a most important series—comprise, this month, ten great American examples, of which eight were designed by architects, prominent among whom are Messrs. McKim, Mead, and White. Mr. Martin Shaw Briggs, A.R.I.B.A., has a further instalment of his "Architects of the Later Renaissance in Italy," dealing this time with Lurago and Bianco at Genoa, and illustrating his text with a dozen fine examples. A plan and cross-section, and more than a dozen fine photographic views, illustrate the most complete account of "The Buildings of Kingsway" yet seen.

HERE AND THERE.

HAVING found the matter while engaged on legitimate business in the library of the Royal Institute of British Architects, I claim there is a *prima facie* case for telling what Dr. Walter Harris, Physician in Ordinary to His Majesty, thought of English soldiers in the days of Dutch William; more particularly as the present is a time of War. The royal physician's real occasion was the giving of a detailed description of William the Stadtholder's palace and gardens at Loo, in Holland, which he visited in 1697 (*i.e.*, when Wren was building the State apartments at Hampton Court in compliance with the wishes of William and Mary), but every racy chronicler likes to digress, and that is how the eulogy of English soldiers gets into the little volume which Dr. Harris published on his return to London. I do not suppose that one architect in a thousand has ever seen the book in the Institute library, so the following will not be familiar. Says the Physician in Ordinary: "For if I were to speak of the English Soldiery, or were askt which were the best Soldiers, the French or the Belgæ, I should answer, the English, as Sir Walter Rawleigh did, when putting the question, in his Book of the World, which were the bravest Soldiers, the Roman, or the Grecian, made answer the English; who, if they were in his time of such account and esteem, when only a Queen, though she indeed a most Excellent one, sate on the Throne, and left her Armies to the Conduct of her Generals: What admiration ought now to be had of the English, when they have our Present King at the Head of them! For we must not forget, *tanti esse Exercitum, quanti Imperatorem*. That the Strength of an Army is to be truly measured by the Valour and Conduct of the General. And we may have some reason to doubt whether Alexander the Great had a better Army, or better Soldiers, even of his Grecians, with which it was his good fortune to Conquer the World before him, and the which he led so boldly and bravely against a great concourse of Persians, who were a weak and effeminate People; than our Edward the Third, or Henry the Fifth, conducted against France itself, that was always esteemed a Warlike People, and was long ago adjudg'd such by Cæsar himself, by his own Experience, after he had Conquer'd them, and the rest of Europe. Those two famous English Kings, I say, did sufficiently manifest the Superiority of English Armies to all others, upon better trials than with Persians, when they had Kings at their Head, like to themselves, and worthy to conduct them. The knowledge of this Truth, made the late Renowned and Excellent General Turenne, so much covet English Soldiers before all others, and even before his own Countrymen, in the Armies he Commanded. And this made him so desirous of the Honour, to be called Father of the English, when he was their Friend and Protector. The last demonstration we have had of the English undaunted Courage, was lately before Namur, where in the first Attack that was made, the English Red-Coats struck such a Terror on the French, by an unparelled Bravery, that they were never able to recover themselves from the fright, during the Siege. And when the Town was forced to surrender, and the King then Ordered away all the English to the Succour of Prince Vaudemont, after the famous Retreat he had made, and to Preserve Brussels from falling into the hands of Villeroy, at the time he Bombarded it; the Elector of Bavaria, as I have heard, begg'd of His Majesty the detaining four English Battalions towards carrying on the Siege of the Castle, and Forts adjoining, to the End that the same Terror might still remain with the Enemy, which the Valour of the English had struck so deeply upon them."

There is nothing to add to this, except to bear testimony to the fact that in the same "cockpit Europe" our soldiers, architect comrades among them, have maintained their splendid reputation for bravery in the fight.

* * * *

London, I suppose, will ultimately fulfil the prophecy and stretch from the South Coast to the Midlands. On the outskirts it is a never-ending surprise to see the octopus of bricks and mortar swallows up green fields—fields, however, which lost their freshness when the boards arrived proclaiming their eligibility. The process has been in full swing for quite two hundred years, and seems to have lost none of its vigour, though, for the time being, the War has stayed the hand of the builder speculative. We have only to turn to the old journals to see the same question arising again and again—Where is the limit? He is the visitor in Early Georgian London telling Applebee's Journal for September 5, 1725, what he is going on in the West End: "I went away towards Hyde Park, being told of a fine avenue made to the east side of the park, fine gates and a large vista, opening, from the new squares called Hanover Square etc. . . . In the tour I passed an amazing scene of new foundations, not of houses only, but, as I might say, of new cities, new towns, new squares, and fine buildings, the like of which no city, no town, nay, no place in the world can show; nor is it possible to judge where or when they will make a stop of building." The last sentence enshrines the everlasting enigma, for to-day still gaze upon the irresistible increase of London's streets and houses. Suburbia is always moving further away from the centre. In the days of this Georgian visitor the suburban belt of houses was which London is now environed was a quiet tract of meadow, wood, and sleeping villages. From Marlborough to the liberties of the City was the real Suburb. When Swift, in his "Polite Conversation," made Vermont say, "What do you think of Hanover Square? Why, Sir John, London is gone out of town since you saw it," he little thought how literally the same words would apply two centuries later. London is still going out of town.

* * * *

To those who are averse to change, things are never what they were, and inevitably the most gloomy forebodings are showered upon every new enterprise. To contemporaries such comment is dispiriting enough, but to those who come afterwards and grow up comfortably amidst surroundings which were declared to be disastrous, the forecast becomes amusing. "Good old days" are always invested with a glamour that never pertains to the present; but it is well to remember that those who lived in the "good old days" themselves looked back to other "good old days," and so *ad infinitum*, until, by a simple process of retrospection, we come to Neolithic Man, in a cold clime, long for the olden time of the woolly rhinoceros and mammoth. I suppose this is all beautifully right. It takes the conceit out of the modern, glorying in his latest achievement. But it is an attitude nevertheless that never helps things a step onward. No innovator ever had a happy time, and in the architectural world of to-day those younger men who are endeavouring, very successfully, to attain to a more scholarly and better type of design than that which grew up with the older men may take comfort in the fact that they are on a surer basis than those who look askance at them. They may be dubbed nick-namers, but the ability they possess is making them a force in architecture, and that force is sure to sweep away comfortable ideas which are so much respected in the minds of the men who are passing. The young men have "arrived," a good hope for architecture.

UBIQUITOUS



MONUMENTS, VI.—MONUMENT TO GIANNOZZO PANDOLFINI, IN THE CHURCH OF THE BADIA, FLORENCE.

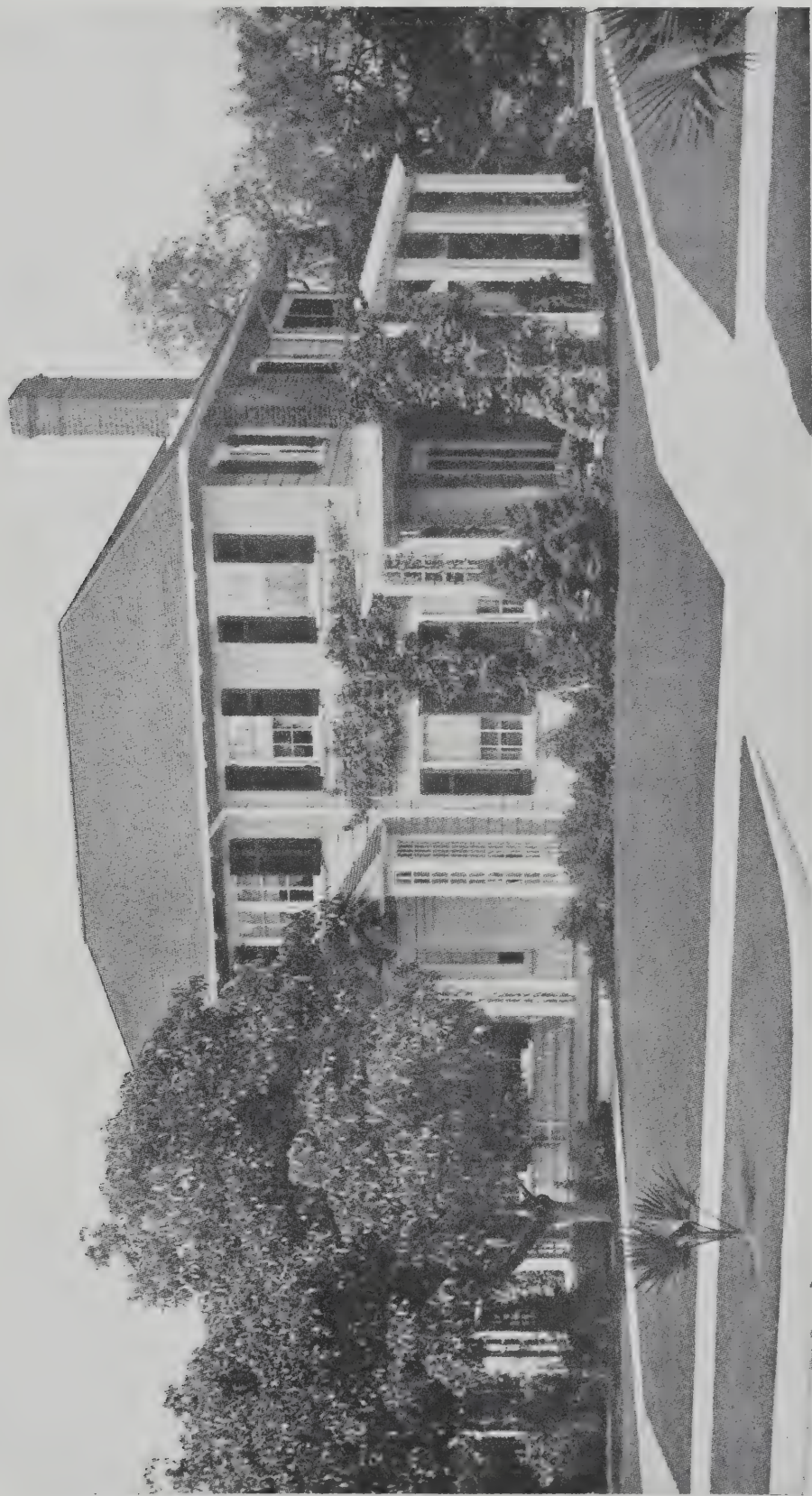
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LONDON FAÇADES. IV.—PHENIX ASSURANCE BUILDING, CHARING CROSS.

J. M. GANDY, ARCHITECT.

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MODERN AMERICAN ARCHITECTURE. XXVII.—HOUSE AT PASADENA, CALIFORNIA.

REGINALD D. JOHNSON, ARCHITECT.

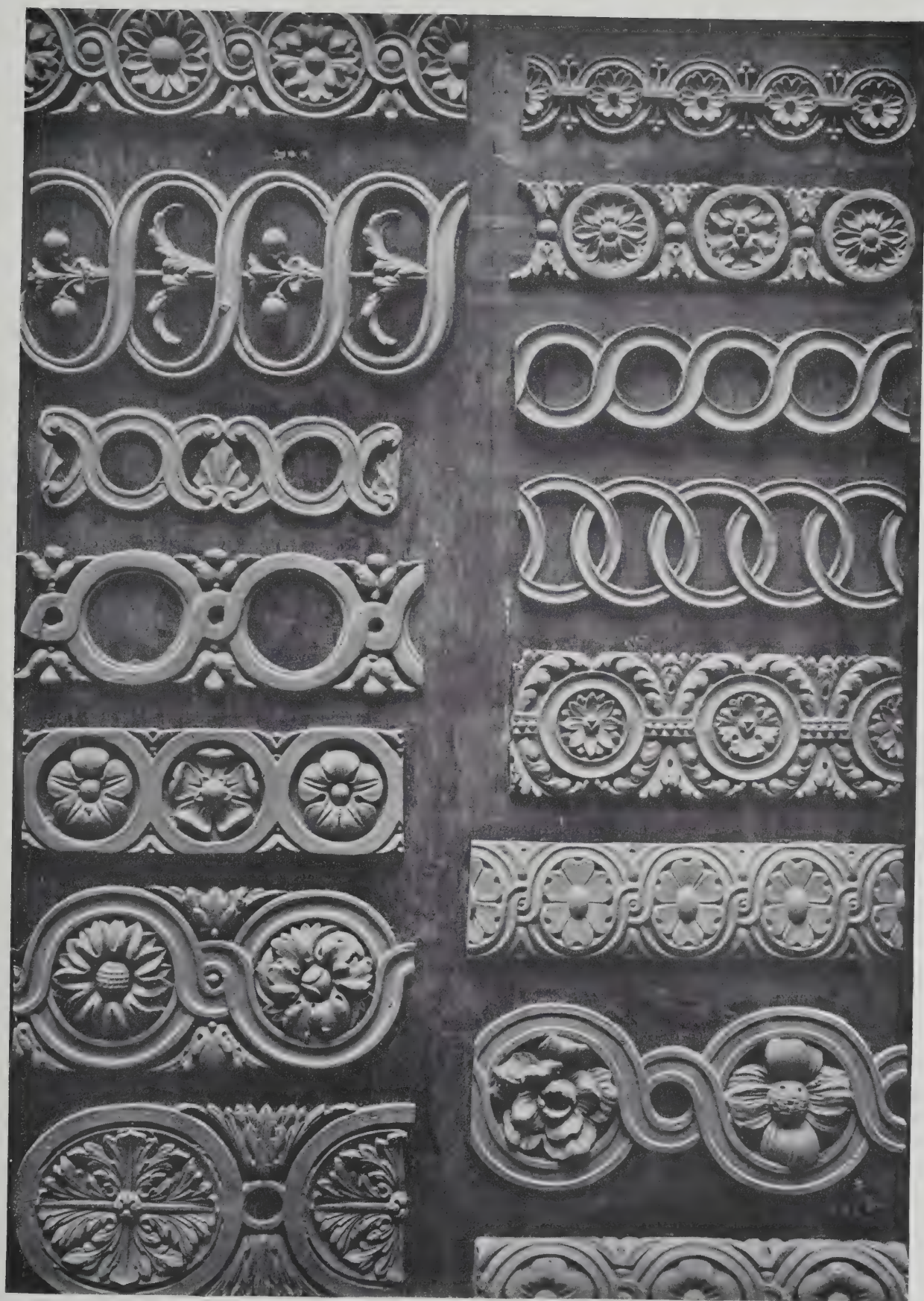
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SMALL HOUSES OF THE LATE GEORGIAN PERIOD (SERIES II.).



XIV.—TWO HOUSES IN THE HIGH STREET, MARLOW.

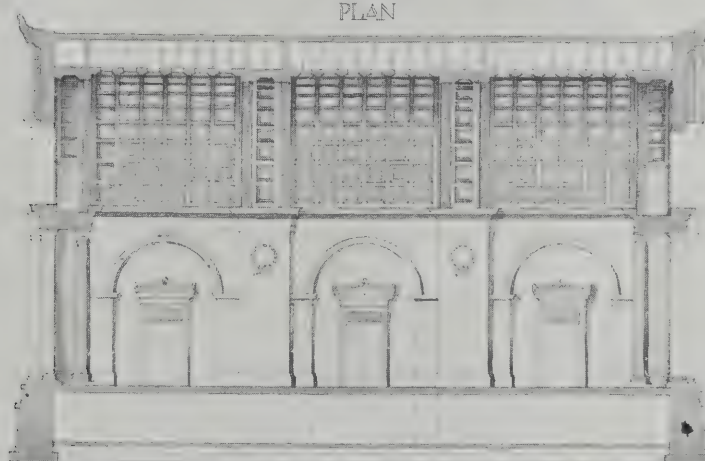
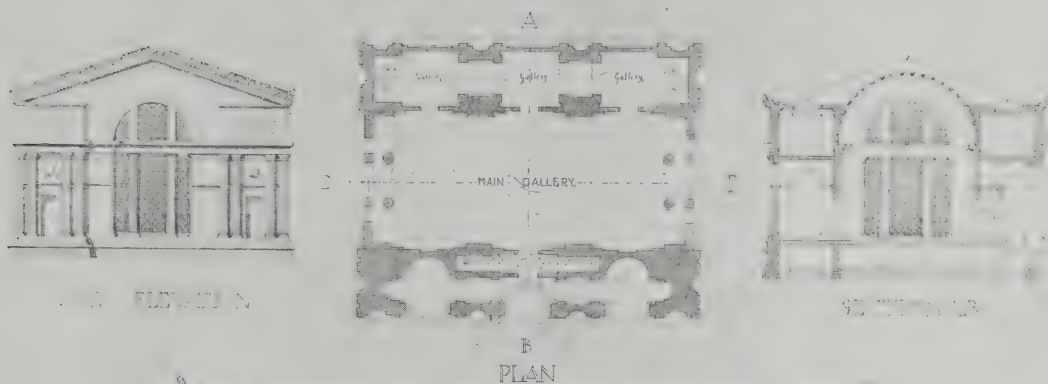
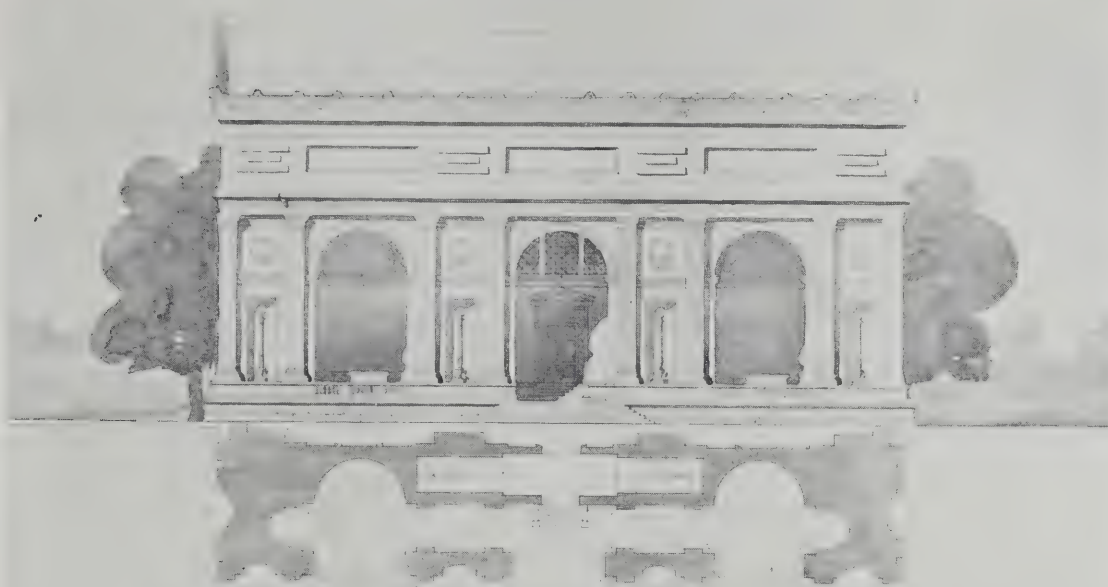


DETAILS OF CRAFTSMANSHIP. XLIV.—PLASTER CASTS OF "GEORGIAN" ENRICHMENTS.

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DESIGN FOR A MUSEUM

TO COST £15000



SECTION C.D.

Alfred B. B. Jopling
1915

STUDENTS' DRAWINGS (SERIES II.). IX.—DESIGN FOR A MUSEUM.

BY ALFRED B. B. JOPLING.

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THE PLATES.

Pandolfini Monument in the Badia, Florence.

THIS is a particularly fine example of a wall monument, and it offers a most useful suggestion for a modern war memorial, in so far as the three elements—admirably adapted to receive the names of those who have died on service—are so well incorporated in the general design.

Phoenix Assurance Building, Charing Cross.

The little building at Charing Cross until lately occupied by the Phoenix Assurance Company is marked down for demolition, in order that the Admiralty Arch may be opened out. We think it of special interest therefore to give this record of an excellent piece of work. The building was erected in 1855 from designs by J. M. Gandy, a pupil of James Wyatt. At the time our photograph was taken the signs and lettering which disfigured the façade had been removed, but the damage done in accommodating them is visible in several places, as in the balustrade. The front is of red brick walling with stone columns, etc. Next week we shall publish the rear elevation, which is of almost equal interest.

A Country House in California.

The charm of this house is self-evident. The design relies on the old Colonial tradition and abounds in taste and refinement. The walls are "frame," with stucco lath and plaster, the roof being covered with cedar shingles. A plan of the house is given below.

Houses in the High Street, Marlow.

Marlow, like Henley, is one of those Thames-side towns which preserve their old appearance to an astonishing extent. Both possess a large number of the Georgian houses unspoiled by modern alterations. The two from the High Street of Marlow, shown on the plate, are typical examples. Even the window bars are intact, despite the attraction of

the large panes so easily obtainable to-day, and very greatly they add to the appearance of each front. The curved bays carried up the whole height give marked character to the one house; the other is a simpler design (and apparently an earlier one), with a ground-floor bay window and a doorway with delicate hood brackets as its chief features.

Plaster Enrichments.

These are a further set of examples from the collection of original "Georgian" moulds in the possession of Messrs. George Jackson and Sons, to whom we are indebted for allowing us to photograph them.

Design for a Museum.

This design, by Mr. Alfred B. B. Jopling, of the Liverpool School of Architecture, is one of those approved by the Board of Architectural Education.

Upper Part of Black, Starr, and Frost Building, New York.

We take this from "Architecture" (New York). It is a very excellent drawing of a remarkable design by Messrs. Carrère and Hastings. A plate showing the entire building was published in our issue for March 4, 1914.

CORRESPONDENCE.

The Rebuilding of Belgium.

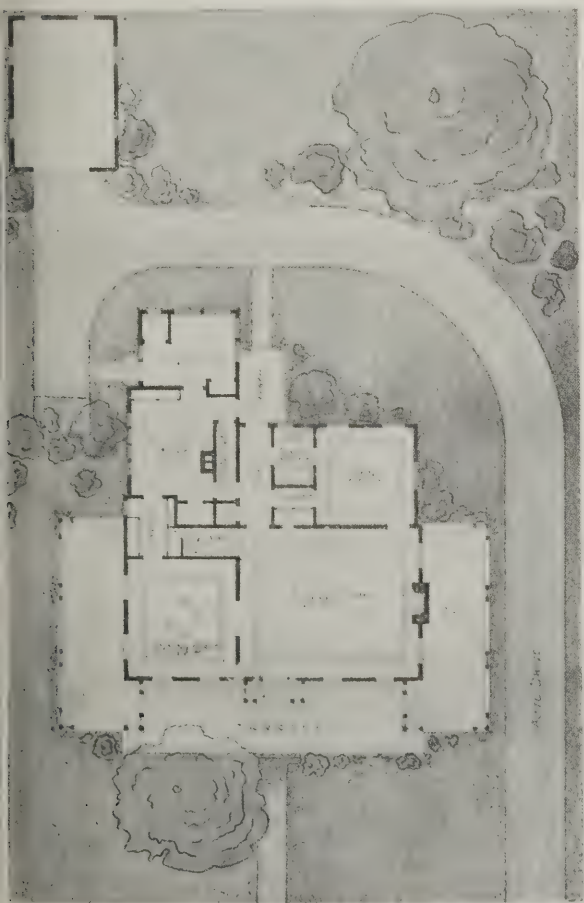
To the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.

SIRS,—I am glad to see that you are following up the admirably informative series of articles on "The Rebuilding of Belgium" that, originally appearing in your columns, have since been published, I understand, in pamphlet form. By "following up," I mean that you seem to seize every legitimate occasion to remind British traders of the opportunities that await them in Belgium and more especially of the obligations that rest upon us as a nation to make every possible effort to assist that country in her hour of need.

By the noble stand she made against the overwhelming forces of Germany, Belgium saved France, and possibly England also. By "speaking with the enemy in the gate," she upset their whole plan of campaign, and gained time for the Allies to organise, first for effectual defence, and afterwards for that sweeping victory that cannot be much longer delayed. Certainly we owe to Belgium a debt that can never be paid in full. Nothing can compensate her for the thousands of precious lives lost in that heroic resistance which meant so much for civilisation; our utmost endeavours cannot atone for the unspeakable atrocities perpetrated on her people, nor for the devastation wrought on her noble buildings.

Yet while it is beyond human power to right these wrongs, British traders, I am sure, will treat that unfortunate country with the utmost generosity. I do not refer to charity. In that, I hope, we shall not be found wanting. But business is business, and should and must be conducted with mutual advantage. A sturdy and an independent people like the Belgians would not have it otherwise. But, as the writers of the excellent articles to which I have already referred have very frankly pointed out, it will be necessary in the first instance to extend every courtesy and consideration to the traders of a country that has been bled white by the ruthless invading hordes. Long credits will probably be necessary, and they should be as far as possible free from the disadvantages usually attaching to easy accommodation. Ordinary trading conditions must be adapted to the occasion, and, as you have many times reminded us, special care must be taken to modify materials as well as methods to Belgian requirements.

F. J. R.



HOUSE AT PASADENA, CALIFORNIA.

CONVERTING LARGE HOUSES INTO MAISONNETTES.

AT last week's meeting of the Society of Architects a paper on the conversion of large town houses into maisonnettes was read by Mr. Herbert Freyberg, F.S.I. The following is a summary:—

It has been urged that the conversion of houses into maisonnettes tends to lower the tone of a residential district, but surely it is far better to have two small families of good position in a residence rather than the omnium gatherum crowd which usually occupies the average boarding-house; and with a large residence that is often the only alternative.

The causes tending towards the disuse of the larger town residence comprise: (1) the bigger staff of servants required; (2) the increasing difficulty in securing efficient servants, and retaining them when secured; (3) the unlimited liability entailed by strict repairing covenants on the part of the lessee, more particularly as regards structural and external works; (4) the general shrinkage of middle-class incomes, coupled with the increased cost of living; (5) the influence of the ever-present motor car, and the not unnatural desire for a little place in the country in which to spend week-ends.

As none of these factors are likely to be of less influence in the future than they have been in the past, it follows that the single occupation of the larger town residence is likely to become more and more a negligible quantity. Nursing-homes, private hotels, boarding-houses, and clubs already exist in numbers greatly in excess of the general requirement, and no increased demand in that direction is either likely or desirable.

Covenants and Structural Alterations.

When the property has the disadvantage of being leasehold, the bearing of the covenants must be considered first of all; in most cases their trend will be both to prohibit the alteration of the building into what may, for present purposes, be deemed to be two or more separate tenements, and to prevent the premises being used other than as "a private dwelling-house only." This is a detail which must be settled before any alteration is attempted; otherwise trouble is likely to ensue.

It is sometimes insisted that the lessee shall give an undertaking to reinstate at the end if called upon; a condition which, with a trust lease, benefits no one and puts a blot on the title.

With an ordinary freehold the owner of the fee simple has no one to consult but his own professional adviser, coupled with a study of his neighbour's rights and convenience.

Building By-Laws and Ratable Value.

Under the London Building Act, so long as the suites do not exceed either a given area or are more than two in number with a user in common of the street door, they are not treated as new buildings within the meaning of the Act, which means a considerable saving of what might be a big expenditure on making floors and staircases "fire-resisting." Proper means of escape in case of fire are, however, very properly insisted on, and are generally easy to provide.

In a recent case at a well-known seaside town, the contention was raised by the local authority that the alteration of the residence into maisonnettes made them new and separate buildings, but although this general principle was sought to be esta-

blished, the requisitions made by them were scarcely consistent with that contention.

An enquiry as to the principle upon which the particular local authorities administer the rule applying to ratable value before and after alteration is most advisable. Practice varies considerably, and in some cases has not erred on the side of equity. To take an actual case; a residence which had an original ratable value of £75 (so that when occupied it only produced about £25 in rates) was, after alteration, increased in ratability by the local authority, and nearly £45 per annum was levied on the unfortunate owner. This was short-sighted policy, for whereas the unconverted houses in the district always had a large percentage of empties, the maisonnettes, if properly altered, were seldom or ever without an occupant. Owners in this particular borough naturally hesitate before embarking on a scheme where the cream of the revenue is taken by the local authority.

Cost.

It is difficult to express an opinion as to cost, because this is influenced by many considerations, the most important one being the original condition of the premises, but as a rough guide it may be taken that structural alterations pure and simple will never be less than one-fourth—and it may be as much as one-half—the first cost of the original structure.

The necessity for partial or complete reconstruction of the sanitation is a matter which can only be judged by an examination of the individual property. In any case, this important detail must be rendered above suspicion.

Hot water supply will most likely have to be new throughout, while a system of central heating in some cases will be required as well.

Electric light, even if already installed, will need to be separated into two systems, and the same remark applies to the gas supply.

A certain number of chimney-pieces and stoves with tiled hearths will usually have to be provided, certainly for the reception rooms.

The decorations will have to be new throughout, and it will be found false economy to stint the coats of paint. Good wallpapers are always desirable.

One detail in regard to which it is almost impossible to be too generous is the provision of cupboards, because flats, with which maisonnettes have to compete, seldom possess more than one, or say two if the space in which the servants sleep is included.

In these days of scarcity of timber, all sound joinery should be preserved and re-fixed in fresh positions. The re-using of doors and frames, architraves, windows, panels, skirting-boards, etc., will not only keep down expense, but will provide a more seasoned article than stuff newly put together.

Some Structural Difficulties.

The most important, and certainly the most difficult, of the structural difficulties to be encountered is that of the stairs.

The arrangement of the staircase usually has to depend largely upon the original planning of the house, but the less interference there is to existing stairs (provided they are well arranged) the better the effect and the smaller the expenditure. In some cases, however, nothing but a clean sweep will give satisfactory results.

In many cases the alteration of a residence into so-called maisonnettes simply amounts to the enclosing of the ground floor stairs, generally by a match-line partition, with a door at the foot. This merely dividing the premises into a couple of tenements, the upper one with three complete sets of stairs, and therefore involving all the disadvantages of a house with none of the conveniences of the maisonnette, while the lower tenement comprises the ground floor and the basement, an arrangement so inconvenient that the lower suite, which should produce the larger return, is often empty, and never commands a remunerative rent.

As soon as the staircase difficulty has been solved, the next most important problem is to plan the sanitation, so that while the Public Health Acts are followed the convenience of arrangement is studied, and the whole system is so designed that pipes of all description are the fewest as regards number and the shortest as regards length.

In most cases some strengthening will be necessary to the floors, especially of the original bedrooms, which have to be changed into sitting-rooms, for what is strong enough for a bedroom with its comparatively light and scanty furniture, a room certainly few occupants, is not necessarily strong enough for a sitting-room with, say, a metal frame piano, book-cases, heavy books, weighty tables and chairs, and, at times, possibly a dozen visitors.

Another matter which may require attention is the conversion of a room into a habitable apartment which before could only be legally used as a store or a bedroom. Any reasonable outlay in this direction will be a profitable investment when increased accommodation is effected.

Arrangement of the Accommodation.

Where the basement is not too extensive and possesses the advantage of being light and airy, it can be often included in the lower suite, which would then comprise the first, ground and basement floors. This, however, has the disadvantage of requiring three flights of stairs, but as the lower suite is entered on the central floor, and by including the first floor the basement can be given up to the domestics, it does not matter so much. The planning of three floors generally means more domestic service, and therefore two servants, one of the advantages of compact planning is thereby lost. The best plan of all is to doubt to ignore the basement, or at least to treat the greater part of it, for letting purposes, as a separate flat, retaining it for a residential caretaker, with provision for central heating and continuous hot water. This arrangement allows the lower suite to be entirely planned for two floors, while the upper suite can be arranged similarly.

The type of accommodation that appears to be the larger number of people comprises four bedrooms, bathroom, two w.c.'s, two reception rooms, kitchen, scullery, etc., and in many large houses of five floors it is possible to get this accommodation contained both on the two lower and the two upper floors. Every inch of space must be utilised, and there must be no dead corners.

Economy of working must be kept in view throughout. With central heating and radiators in the principal rooms, a few auxiliary gas stoves, the labour and cost of fires can be reduced to a minimum. With continuous hot-water supply to

bersome range with its extravagant is not required, as a gas cooker is all t is necessary in summer. lavatory basins with hot and cold water plies save much unnecessary work in rooms, and provide greater convenience. Tradesmen's lifts to the upper e obviate many difficulties, and they uld, if possible, be made accessible n a special back-door entrance. ne of the most important features is, t the entrance should be impressive, l for that reason sufficient space must given up to the outer hall, entered ough the street door, and from which two doors lead to the respective suites.

Advantages of the Maisonnette.
The advantages of the maisonnette over house or flat are—at far less rent the ident can live in a much better neighrhood than he otherwise would be able afford, his payments are inclusive, and liability for repairs is strictly limited l easily calculated. In comparison h flats, the rents are from 50 to 80 per t. less, while the accommodation is ch better in every way—the rooms hav-a bright and open outlook, instead of ing a blank wall in a central area, as the case in so many flats. There is, , more privacy, as the stairs are used y by the particular tenant. In addi-, if there is central heating, continuous water and a resident caretaker, all advantages are on the side of the isonnette.

Rental Return.
n estimating this, the price that the sting building would realise in the open rket (not what it originally cost) should added to the cost of the alterations, and total treated as capital outlay upon ich to reckon the rate of interest urned.
The outgoings on a freehold property nprise: (1) Borough rates, (2) water e, (3) inhabited house duty, (4) career's remuneration, (5) fuel and sunes, (6) external and structural repairs, insurance. The first two depend on ratable value and the rates current in e district, the third upon the amount of ss value. The outlay under (4) and should be calculated and charged to tenants, and to provide for (6) a ain amount should be put away every r to form a fund available for periodical ernal repairs. As regards internal rers, the suites should either be redecoed by the tenants on leaving, or an eed sum paid by them in lieu thereof. For purposes of comparison in regard- the property as an investment, the lowing points must not be overlooked:
The present market value of the pro-ty unaltered; (2) the outlay required put it in complete structural, sanitary d decorative repair, in order to secure tenant in one occupation; (3) the sort tenant likely to be obtained, (4) the ount of rent and conditions as to airs.
As an illustration, take a five-or residence with some eighteen rms, in a neglected condition and quiring immediate expenditure of eral hundreds of pounds to put into order. As a single dwelling will only realise for the fee simple its present condition, say..... £800
t requires an immediate expendi-e on structural repairs, new sanion, hot water, electric light, new orations, etc., costing, at pre-t rates, say 450
£1,250

When complete it will let at, say, £100 per annum on a three years' agreement, which, on paper, appears to be a very good return, but when, as each tenant vacates, a loss of six months' rent is entailed ere the property is let again, and partial, if not entire, redecoration has to be faced, the nominal 8 per cent. is reduced to 4 per cent., and that with much trouble entailed.

Now take the property remodelled:
Original value of fee simple of the pro-erty in bad order, say£800
Less costs of sale 30
..... £770

COST OF WORKS.

New staircase, new partitions, additional windows (with prismatic glass), new ceiling, roof, etc., turning a room into a habitable apartment, provision of escape from fire, steelwork necessary for strengthening upper floors, also 6 in. of concrete over basement with wood-block floors	£450
New Sanitation, complete with fittings...	220
System of heating with radiators, hot-water supply, and certain new stoves and chimney-pieces	200
Installation of electric light with fittings complete, and electric bells	90
New gas services, heating and cooking for two flats, and lighting and heating for caretaker	20
Internal decorations	160
Cupboards and fittings	50
External repairs and painting	70
General and sundry work	40
	— 1,330
	£2,100

These figures are not theoretical, but actual, having been taken from some works just completed at a large house in

Brunswick Place, Hove, and are for works carried out in the most efficient manner.

Now take an estimate of the return:
Upper suite, say £90
Lower suite, say 110
Charge for partial service of caretaker and cost of fuel, say 52
..... 252

Borough rates, water rate and inhabited house duty	£48
External repairs	15
Allowance to caretaker	16
Expenses of management	5
Fire insurance	2
Fuel	18
	— 104
	£148

which shows some 7 per cent. upon the cost, or allowing for empties, and taking into account the outlay on architect's fees, a return of between 6 and 7 per cent.

LORD ROBERTS MEMORIAL FOR GLASGOW.

The accompanying illustrations show the memorial to Lord Roberts which is about to be set up in Kelvingrove Park, Glasgow. It is a replica of the monument by the late Harry Bates, A.R.A., erected in Calcutta. Lord Roberts is shown seated on his favourite charger, "Volonol," on a tall pedestal bearing bas-relief panels, while at either end are figures symbolical of "War" and "Victory."



LORD ROBERTS MEMORIAL, GLASGOW.
THE LATE HARRY BATES, A.R.A., SCULPTOR.

ARCHITECTS' AND SURVEYORS'
APPROVED SOCIETY.

The annual general meeting of the Architects' and Surveyors' Approved Society was held on December 7, at 18, Tufton Street, Westminster, when Mr. Ernest Newton, P.R.I.B.A. (retiring president of the Society), occupied the chair. Mr. F. R. Yerbury (secretary) gave a statement of the progress and work of the Society as follows: The Architects' and Surveyors' Approved Society completed its third year on July 3, 1915, and members will be gratified to learn that it still maintains its successful course. Approximately there were on July 3 1,800 members of the Society, of whom 36 were women. These figures show an increase of 100 during the year, which, having regard to the general dislocation of business in the architectural

and surveying professions consequent upon the War, may be considered as very satisfactory. Much, however, can still be done by personal recommendation to increase the membership. Now that most of the many difficulties have been overcome which were experienced by this, in common with all other societies, in the early days of the National Insurance Act, and with the evidence which this report gives of the Society's sound financial position, members should have an easy task to convince fellow-members of their professions of the wisdom of associating themselves with a Society which is carried on exclusively for their benefit. The committee is now enabled to place before members the accounts for the first eighteen months of the Society's working, as passed by the Government auditors, and following upon the practice of previous years it has ap-

ended to this report a provisional income and expenditure account for the past year. It will not be possible to ascertain definitely the exact financial position of the Society until the official Government valuation has taken place. This valuation which became due when the Insurance Act had been in force for three years, will no doubt take place shortly, and the committee confidently anticipates that an extremely satisfactory state of affairs will be revealed. In the meantime, members will be pleased to learn that the Society has investments to its credit amounting to £2,140, £700 of which consists of National Government 4½ per cent. War Loan Stock. The claims paid by the Society during the year have been as follows:

<i>Men.</i>	
Sickness Claims	96
Maternity Claims	48
Disablement Claims	4



"War."



"Victory."

LORD ROBERTS MEMORIAL, GLASGOW: SCULPTURE ON PEDESTAL.
THE LATE HARRY BATES, A.R.A., SCULPTOR.

were half a dozen sicknesses on behalf of women. The unit actually expended on sickness maternity benefit during the year been considerably below that allowed by the Government actuaries. At the present time there are over 600 members who are serving with the Forces, and a very large percentage of these hold commissioned rank. From the Committee of Management, Messrs. Maurice E. Webb, F. Steward, W. G. Newton, and H. A. James are serving. It is with the deepest regret that the committee records the loss of five members on active service. An expression of sympathy on behalf of the Society has been communicated to the families in every case. The Benevolent Fund, which is supported by contributions and annual subscriptions from honorary members, has fortunately had no great strain upon its resources, but it has been able to render some really valuable assistance to certain members in urgent need.

Mr. Philip E. Webb (who is retiring from the office of treasurer on account of enlistment) spoke of the financial position of the Society. This, he said, was clearly shown on the report, and he was glad everyone would agree that it was entirely satisfactory. The administration expenses were still well below the actuarial estimate, and the accounts for 1914 showed an additional saving of £30, making a balance of about £88. He was pleased to find that the sickness benefits were still low, and that the total amount paid in benefits on behalf of maternity claims. He expressed the Society's thanks for the work done by the secretary, Mr. Yerbury, the assistant secretary, Miss Double, and to both of whom the Society owed a debt of gratitude. The Committee of Management was elected as follows: George Corderoy, F.S.I. (chairman), E. Blake, F.S.I., C. MacArthur Butler, F.S.I., A. G. Cross, F.S.I., Ralph Ellis, F.S.I., H. M. Fletcher, F.R.I.B.A., Alldard, George Hubbard, F.R.I.B.A., H. A. James, B. Marr Johnson, F.S.I., R. G. Lovell, A.R.I.B.A., Ian McAlister, B.A., E. C. P. Monson, F.R.I.B.A., W. G. Newton, M.A., F.R.I.B.A., Herbert Passmore, F.R.I.B.A., F. R. Priest, G. Reeves, Clifford T. Steward, F.S.I., H. W. Virgo, Maurice E. Webb, M.A., Philip E. Webb, F.R.I.B.A., H. D. Whitham, H. D. Charles-Wood (treasurer).

A vote of thanks was passed to the Architectural Association for granting the Society free office accommodation, which was one of the greatest financial assistance. Mr. Ralph Ellis proposed a vote of thanks to the retiring president, Mr. Ernest Newton.

LEGAL.

Liability for Repairs to a Roof.

Hart and another v. Rogers.

Number 2. King's Bench Division. Before Mr. Justice Scrutton.

This action raised an important point as to the liability of an owner for repairs to the roof of a building occupied by a tenant. The action was by the executors of the late Mr. Hart, landlord, claiming two months' rent of a flat at Moscow Mansions, Cromwell Road, South Kensington. The defendant took the flat for a year, and under the agreement agreed to pay £20 at the end of the tenancy for dilapidations. The defendant said the plaintiffs retained control of the roof, and that the water came through owing to the plaintiffs' neg-

lect to repair, and rendered it uninhabitable. It resulted in an illness to his wife, and he had to vacate the flat and find another habitation. He put in a counterclaim for damages.

Mr. Disturnal, K.C., and Mr. P. B. Morle represented the plaintiffs, and Mr. Rose-Innes, K.C., and Mr. F. Dodd the defendant.

His Lordship, in his written judgment, after stating the facts of the case, proceeded: This roof was not under the control of the tenant, and was under the control of the landlord, and I think that it was not included in the letting. It is not necessary to determine, in the case of an upper and lower flat, where one stops and the other begins; or, in the case of a top flat, where it stops and the roof begins. I am clear that the defect which caused the damage in this case was not in a part of the roof included in the demise. The next question, one of general interest is—What is the legal obligation imposed on the landlord in respect of the roof? It is clear that ordinarily the lessor of an unfurnished house does not impliedly warrant that it is fit for occupation, and that the lessor of a furnished house or apartment does impliedly warrant that it is fit for human occupation at the beginning of the tenancy. I proceeded to deal with the case on the footing that there is an absolute duty to keep in repair. To avoid difficulties later I will also deal with it on the footing that there was only an implied duty to use reasonable care in repair.

His Lordship came to the conclusion that the illness of the defendant's wife was not caused by the water coming through the roof, and that the leakage was not caused by the plaintiff's negligence. Continuing, his Lordship said: Water came into the hall and bath room; it did not directly affect the living room, but the hall was very damp and unsightly; and in my view the tenant was justified in leaving and remaining away until the roof was repaired and the hall dry—March 25, 1915. The legal result of these facts is as follows: I am unable to see any principle on which these facts give the tenant an answer to the whole claim for rent. The plaintiff's claim therefore succeeds as to the rent and dilapidations. I see no ground for making the defendant liable for the second quarter's telephone and electric light. There will be judgment for the plaintiff on the claim for £114 13s. 6d. As to the defendant's counterclaim, I am not satisfied that the wife's illness was caused by the leakage, and I should in no circumstances have given him the extra cost of the summer holiday at Maidenhead seven months after. I should have given him, if he had moved after the first leakage, the cost of substituted lodgings until the premises were fit again; as he did not move, I allow him something for discomfort and interference with his tenancy till February 25, and from February 25 to March 25, when the premises, because of the two leaks, were not reasonably inhabitable. I allow him the cost of substituted rooms. I give him in all £25 damages on the counterclaim, with costs. If the true view of the relation of this landlord and tenant is that the landlord only contracts to use reasonable care to keep the roof in repair, I have found no negligence in this case and, on that construction, the plaintiff would have had judgment on the counterclaim, with costs. While the state of the law as to the letting of unfurnished premises is, in my opinion, unsatisfactory, the remedy must come from the Legislature and not from the Judges.

ARTISTS' RIFLES O.T.C.

The officer commanding the Second Battalion of the Artists' Rifles Officers' Training Corps has decided to form a special company to consist mainly of professional men whose technical experience renders them qualified for appointment as officers to those units or branches of the army in which knowledge of construction and civil engineering is especially useful in the conditions obtaining in modern war.

A large number of men have already been enrolled, but there are still vacancies for civil, mechanical, and mining engineers, architects, public works surveyors, and borough engineers to receive the military training which is essential if the military authorities are to make full use of their professional skill and experience.

The training will be directed to the development of that portion of the candidates' peace training which is applicable to military work, and such further instruction as will enable them to apply their technical knowledge effectively to military requirements.

The scope of the training will extend beyond ordinary field engineering, and will be both of an individual and collective character. It will include engineers' reconnaissance, building and repair of bridges and roads, work in connection with embarkation and disembarkation of troops, military sanitation and water supply, the construction of defensive positions, animal management, and such other instruction as is necessary to render the candidate for a commission a thoroughly efficient officer.

Professional men having Colonial experience will be particularly welcome, and during their training will be associated with men of like social position and education.

Application for nomination to the Corps should be made to the Headquarters, Artists' Rifles O.T.C., 7, Duke's Road, Euston Road, W.C.

THE L.C.C. AND CINEMA THEATRES.

A report presented to the London County Council by the Theatres and Music Halls Committee contains the following observations, which embody certain points that should be taken into consideration with respect to design and accommodation: The licences granted by the Council under the Cinematograph Act, 1909, expire on December 31, 1915. During the period of the current licences they have had under consideration questions relating to (1) the exhibition of films which have not been passed by the British Board of Film Censors; (2) the storage of inflammable films on premises licensed under the Cinematograph Act, and (3) the attendance of children at cinematograph halls.

As regards the exhibition of uncensored films they have in a number of cases of applications for new licences and for the transfer of existing licences received from the applicants an undertaking that they would exhibit only films which had received the certificate of the British Board of Film Censors, and they think that the licences to be issued after December 31 should contain a condition to that effect. It is not, however, practicable to submit for censorship local and topical films dealing with current events, and they propose to insert words to make it clear that these may be exhibited. It may, of course,

happen that a film which has received the certificate of the Board of Film Censors may be considered objectionable by the Council. In such an event, which we hope will be of rare occurrence, the imposition of the condition suggested will not prevent the Council taking steps to stop the exhibition of the film.

With reference to the storage of inflammable films, the necessity for a condition dealing with the matter has been shown by the serious fire which occurred at a cinematograph hall in the Charing Cross Road, owing to the use of the basement of the premises for storing a large quantity of old film.

In regard to the attendance of children at cinematograph halls, they have had their attention drawn to a number of cases which have taken place during the present year of children who have been molested by men in cinematograph halls. In two of the cases they have seen the licensees of the halls and questioned them as to the arrangements made for the accommodation of children who attend unaccompanied by adults. In each case it appeared from the licensee's statements that it was due to the action of the manager of the hall that the police were called in and the men arrested. It was pointed out that in the majority of cases the men brought the children to the hall, having made their acquaintance outside, and that such cases would not be met by reserving special accommodation for children unaccompanied by adults. They are strongly of opinion, however, that even if it is not practicable to make the recurrence of such cases impossible, the Council should take all the steps in its power to diminish the probability, and they have caused a circular letter to be sent to all licensees on the subject, asking that steps may be at once taken to reserve sufficient seats for children unaccompanied by adults, and that no adult should be permitted to occupy one of the seats reserved for children, and informing the licensees that the Council will be recommended to attach such a condition to all licenses granted in future. They recommend that the following conditions be attached to all licenses granted under the Cinematograph Act, 1909: (i.) That no celluloid or inflammable cinematograph film, except such as is used in the current or forthcoming performance, shall be kept or stored on the premises. (ii.) That no films shall be exhibited except such as have received the certificate of the British Board of Film Censors and local and topical films dealing with current events.

GLASGOW TOLBOOTH STEEPLE.

At a meeting of the special sub-committee of Glasgow Corporation on the Tolbooth Steeple last week, it was reported that at a meeting with the Commissioners of His Majesty's Office of Works the latter body suggested that, having regard to the present state of the country consideration of the proposal to remove the Tolbooth Steeple should not be proceeded with in the meantime, and that the Corporation should, under reservation of the rights of all parties, withdraw their notice of November 17, in which they adhered to their previous decision to remove the steeple. The Commissioners explained that under the statute if that notice were not withdrawn they would, in view of the steeple having been scheduled as an "ancient monument," be bound before the 17th day of this month to issue a Preservation Order, which would remain in force for a period of eighteen months, and that if within that period they desired that

Order to be made perpetual they would require to go to Parliament, when the question would be fought between them and the Corporation. The Commissioners desired to avoid complicating matters at this time by issuing a Preservation Order, and preferred that the whole matter should remain open for the time being, leaving to the Corporation, if they thought fit under altered conditions in the country, to renew the notice of their intention to remove the steeple. The Commissioners would then consider the question on its merits. The sub-committee agreed to recommend that the suggestion of the Commissioners be adopted, and that the removal notice given by the Corporation on November 17 be meantime withdrawn. This recommendation will come before the Town Council.

TRADE AND CRAFT.

Practical "Daylight Saving."

To diffuse broad daylight through a room or a building that would otherwise remain obscure, cheerless, and inefficient, is an achievement of immense importance, and it has been accomplished scientifically by means of "MAXimum Daylight Glass." Its makers claim for it that it is the first glass ever produced in sheet form with scientifically shaped projections on each side of the sheet. Those on the outward-looking surfaces are nicely calculated for the collection of light, and those on the inwards-facing side are set at the angle best suited for light diffusion within the building; a sheet of this glass being, in fact, a scientific combination of lenses and prisms. To meet varying conditions of lighting the sheets are made in four different types, each type having its prisms set at the special angle required for any given service. For example, a room that is long relatively to its height may require one angle, and a room that reverses these dimensions will be better served by a different angle. Collectively, these four types of prism meet all ordinary conditions, and it is claimed that when the correct type is employed (and this is a point upon which the firm are prepared to give expert advice), the installation of this glass increases from five to twenty times the daylight illumination of an interior that without this provision would be so obscure as to be virtually useless. Many an abandoned basement has been converted to utility by the use of this system of collecting and diffusing light; while shops, offices, factories, and warehouses, from which prospective tenants have been frightened away by the prevailing gloom, have been let at lucrative rents after the adoption of this simple and economical expedient. Architects, the vendors declare, need not have a dark corner in any room if they apply this glass to certain windows. It is especially effective in narrow streets, areas, etc., just where daylight is often most essential for matching colours, etc., a feat that is impossible with artificial light; and it is made in sheets large enough for glazing skylights above 60 in. high. Made in sheets 100 in. high by 46 in. wide, and also 46 in. high by 100 in. wide, it is cut to any size for glazing in sashes.

Other specialities described and illustrated in the leaflets from which these particulars are derived are the "Max glazing bar," an inexpensive system of glazing roofs, skylights, etc., supplied in three sections for fixing to wood rafters, and easily managed by builders; "Maxine" figured rolled glass, which, while it cannot be seen

through, admits the greatest possible amount of light, and has a very restful effect on the eyes; "Max silk glass" which has the decorative effect of moiré silk, and is recommended as a superior glass for partitions, door panels, screens, etc.; and "Cat's-eye glass," which is a favourite glazing for partitions and panels.

Mr. E. J. Dobbins is at the head of the MAXimum Window Glass Company, Victoria Street, Westminster; and all the above-mentioned varieties of glass are manufactured in England at the works Messrs. Chance Bros. and Co., Ltd., Birmingham.

The Trussed Concrete Steel Co., Ltd.

The Trussed Concrete Steel Co., Ltd. (Kahn system of reinforced concrete) Caxton House, Westminster, announce that their company has been declared Government Controlled Establishment in accordance with the Munitions Act of 1915. They add, "In this official recognition the skill and efficiency of our engineering staff as reinforced-concrete specialists are paid a considerable compliment, and although we have many Government contracts in hand at the present moment, are still in a position to take care of civil work."

Changes of Address.

Messrs. Henry Faija and Co. announce that on and after December 25 next their address will be 6, Earl Street, Westminster, S.W., where they have secured larger and more commodious laboratories. They explain that after having been established in Old Queen Street some thirty-five years, they were naturally extremely loath to change their address, but their lease having expired, and the owner having insisted on the building for demolition, there was no alternative.

The British Reinforced Concrete Engineering Co., Ltd., notify their removal from 82, Victoria Street, Westminster, S.W., to 1, Dickinson Street, Manchester, where larger offices have been secured in close touch with their works. The office, 36, Lime Street, E.C. (telephone Avenue 2674) will continue to deal with commercial matters.

OBITUARY.

Mr. J. W. Taylor, F.R.I.B.A.

The death is announced of Mr. J. Walton Taylor, architect, of Newcastle, where he commenced practice in 1881. Taylor designed the Y.M.C.A. building, Blakett Street; the Soldiers' Home, Hunter's Road; the Dilston Road Wesleyan Chapel; and Messrs. Bainbridge & Co.'s extensions and Furniture Depot, Newcastle. He was also the architect for a large number of churches and Sunday schools in Northumberland and Durham. Mr. Taylor was a Fellow of the Royal Institute of British Architects, of the Surveyors' Institution, and a president of the Northern Architectural Association.

Mr. John Lane.

We regret to announce the death of John Lane, which took place on December 7. As our readers will know, Lane has been senior country representative for Messrs. Carter and Co., Ltd., Caustic Tile Manufacturers, Poole, for a considerable number of years.

ELECTRICAL NOTES.

The Edison Lamp.

The invention or working out of a new scientific idea during a period like the present is deserving of comment in itself; the fact that the novelty is an electric lamp of ingenious design and high efficiency is of more than considerable interest; but perhaps the most striking and praiseworthy element connected with the announcement is that the lamp does not owe its origin to Germany, but is British in inception and fulfilment. The particulars have been published in a communication to the "Journal of the Institution of Electrical Engineers," by Messrs. E. A. Gimson and S. R. Mullard, of the Edison and Swan Company. We are told that the experiments were commenced in 1913, with the definite object of achieving a lamp with the external characteristics of the ordinary incandescent electric lamps, but having as the source of light an arc between electrodes of tungsten or the like, burning in an inert gas such as nitrogen or argon. The chief difficulty experienced in the evolution of the lamp was in regard to the "striking" of the arc. It is well known that an arc does not start across a gap between two electrodes unless these electrodes are made to touch and are then separated, or unless some other means is taken to cause a current to flow.

The first lamps had an expansion strip of metal, which was warped by the heat of the current, and so caused the arc to strike. This was found to present certain disadvantages, and eventually another method was adopted—namely, the principle of producing an ionising circuit between an auxiliary filament and one of the electrodes. After considerable trouble, a suitable device was produced, and in its present form the lamp may be considered quite practical. The electrodes are made of tungsten, and consist of a small globule or plate for the one, and a series of wires in brush form for the other. It gives an intense white light, which emanates from an extremely small source, and at an efficiency of 0.5 watt per candle-power its intrinsic brilliancy is about 10,000 candle-power per square inch, or ten times that of the ordinary metal filament lamp. The gas used is nitrogen at a pressure of two-thirds of an atmosphere. The lamp is made for 500 and 1,000 candle-power, and has a life at present of about 500 hours. So small is the source of light that a 500 candle-power lamp is not more than $\frac{1}{4}$ in. diameter.

Factory Heating.

Now that new factories are being run up like mushrooms, the heating question is liable to be neglected, chiefly because of the difficulty experienced in obtaining delivery of heating installations and lengths of pipes, the combined heating and electric fan system of the General Electric Co., Ltd., will be found helpful. The heater is made in two forms, for use with high and low pressure steam respectively, and consists essentially of a self-contained system of fan and coils. In the high-pressure steam heater weldless steel tubes bent to U-shape and expanded into a cast-iron header are employed, and surrounded by a circular cast-steel casing on which is mounted a propeller fan. The air is blown downwards over the coils and discharged near the floor. The apparatus is designed for pressures up to 150 lb., when it is capable of delivering 2,600 cubic feet of air per minute raised through 60 degrees Fahrenheit. The consumption of the fan is about 220 watts.

The low pressure steam heater is designed for steam at about 15 lb. pressure, and consists of a battery of cast-iron gilled radiators enclosed in a sheet steel casing as in the high pressure type, and the capacity is the same. The heaters are both provided with a substantial cast-iron base, and are fitted with a steam connection on one side and a drain pipe on the other. The system presents several advantages, notably the ease and quickness with which it can be installed or removed, the absence of long runs of piping, the small floor space required, and the economy of working. The heaters can be fixed in the centre of a shop and pipes of small size run overhead or beneath the flooring, whilst the large volume of air circulated helps to make conditions of the atmosphere more pleasant.

Conduit Supports.

The Simplex conduit system is always being expanded, added to, and improved. Hardly a month (shall we say) passes but a new fitting is put on the market by the makers, who were the pioneers of a practical system of house-wiring conduits. The conduit support now referred to is for supporting the conduit free of the wall where this is necessary on brick, stone, or cement walls. It consists of a rag-bolt 3 in. long, with a shoulder ending in a split ring with two lugs and tightening screws. The rag-bolt is intended to be grouted into the wall with Keene's cement up to the shoulder, and the conduit will then be spaced out $\frac{3}{4}$ in. clear of the wall. These fittings are made for conduits from $\frac{1}{2}$ in. to 2 in. diameter in enamelled iron, at prices ranging from 8s. to 23s. 3d. per dozen. They are also supplied in galvanised finish at an extra price.



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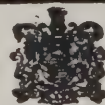
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THE ARCHITECTS' & BUILDERS' JOURNAL.

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FRAGMENTS OF ANCIENT BUILDINGS.

(From Iranesi.)

THE ARCHITECTS' & BUILDERS' JOURNAL.

DECEMBER 22, 1915.

TOTHILL STREET, WESTMINSTER.

VOLUME 42. No. 1094.

EDITORIAL.

VERY opportune was the paper on the conversion of town houses into maisonnettes read by Mr. Herbert Freyberg, F.S.I., before the Society of Architects, and summarised in last week's issue of this Journal. At all times it has been the fate of great town houses—perhaps of most of them—to lose their original character and purpose—to become, in a sense, democratised. As a rather extreme instance, Old Edinburgh might be adduced; and in London examples of this deterioration are equally numerous though more scattered. Commonly there has been no well-ordered attempt to adapt them to their new uses as tenements, although occasionally they are converted into flats, a modification that is being carried out, with variations, more systematically in smaller suburban houses, which are being partitioned off either longitudinally or vertically for the accommodation of more families than were contemplated in the original design.

* * * *

This tendency, as we were prompt to point out, is being strongly accentuated by the conditions created by the war—the scarcity of servants, the shrinkage of incomes; in a word, the general need for economy. Of the two ways in which the new needs may be met—by the building of houses of revised type, and by the conversion of existing large houses—the latter alternative is obviously the more expedient in an emergency. At the present moment, such conversions give the architect his main opportunity of employment, and anything in the nature of real guidance in the matter is therefore particularly opportune.

* * * *

Not that the architect needs instruction on details of structure and planning of which his training should have given him an assured mastery. Even thus he will not be disposed to underrate the value of "conference," but will be glad to compare notes and exchange experiences with others who have done or are doing similar work. But the particular value of the paper cited is that it is written largely from the standpoint of a Fellow of the Surveyors' Institute, who throws out useful cautions as to the difficulties that may arise with regard to ratable values, building by-laws, and the terms of agreement between landlord and tenant. Although these may be matters which concern more intimately the client than the architect, it is clear that the architect will be in a better position if he takes due cognisance of them—as when (to select a point that is not necessarily sordid) he is able to show that the work can be inexpensively adjusted to the conditions of the covenant.

• • • •

As Major Freyberg demonstrated, covenants may in many cases forbid the structural alterations necessary for the conversion of a mansion to a maisonnette, or

may prevent a dwelling from being put to business uses. In such cases, however, the ground-landlord is usually open to argument if he is approached diplomatically, and, on the whole, the worst that is to be feared is "the law's delay"—the terrible waste of time involved in securing the necessary legal instrument and the difficulty becomes greatly exaggerated with parties whose consent it is necessary to secure haply to live at a distance—perhaps abroad. Then, of course, there is the daunting problem of reinstatement. With the fear of this contingency before his eyes, the leaseholder will require every assurance from the architect that the alterations can be so devised as to make reinstatement a matter of no great difficulty or expense. Fortunately, the architect is in this respect in a much better position than he was formerly. The methods and materials of construction that he can now command render conversion and reconversion equally easy and inexpensive.

* * * *

As to the incidence of rates, it may be fairly questioned whether local authorities do not enjoy too much arbitrary power. It should not be possible to point to this effect, mentioned by Major Freyberg:—a building rated, as it originally stood, at £25 was, on conversion, rated at £45; with the natural sequel that "owners in this particular borough hesitate before embarking on a scheme where the cream of the revenue is taken by the local authority." Assessments are too often made more in accordance with the whims, caprices, financial exigencies of an incompetent board than with ascertainment and equity. Twin houses in the same street may be differently rated without rhyme or reason, and the poorer the house the more heavily rated relatively to the larger and finer house. Such anomalies are the more likely to be redressed if that a new phase of the housing question brings them into prominence. Not until dealings in house property are freed from the embarrassing restrictions that, as a rule, mere relics of feudalism, and are distinct restraints of trade, will the property market assume the healthy tone necessary to its prosperity.

* * * *

It is perhaps in accordance with the new economic spell "maisonnette" with one n; although the hybrid form is inveterate over the doors and on the gates of suburban villas. For this use it is a strong rival to "Mon Repos," "Mon Abri," "The Nest," and the other manifestations of the home-loving sentiment that are commonly selected from a list obligingly provided by the itinerant sign-writer, who, charging so much for the letter, deprives himself of cash and credit every time he misspells "Maisonnette." This kind of trade makes very attractive Sir Edward Clarke's suggestion of a tax on house-naming for other than trade objects. Now that the architect has attained to so much skill in the art of lettering, it is to him that we must look

formed writing, if not for correct spelling. Any polmaster will confirm us that the best writers are rly always the worst spellers, and we are afraid that average lettered drawing does not exclude archis from this generalisation.

* * * *

This trifling defect of the artistic temperament is ely noted in passing. What is of real importance he inveterate practice of ignorin^g the architect to disfigurement of his building with hopelessly vulgar ibering and lettering. Imagine the chagrin of the igner of a really artistic shop-front when he finds t the tradesman occupying the shop has indepen- tly employed some expert sign-writer to defile the ding and corrupt the community with a superscrip- that openly blasphemes against good taste. It is oe supposed that the tradesman is ordinarily too ch a man of detail to take the synthetic view. In ignorance—or is it his superior cunning?—he ks that bigness and blatancy are more impressive n a decent regard for scale, proportion, and consis- cy, and the sign-painter encourages him in this ief; which, indeed, may possibly be correct for r districts. West-End traders, however, are setting excellent example in the matter of lettering. They e acquired the habit of consulting the architect ut it, with the result that there is now much charm e formerly a fascia was an occasion for disgust. e are not without hope that this reform will “broaden wly down from precedent to precedent.” “Slowly,” eever, is a hard word: and the beautiful lettering h which the public are being made familiar at every n—in the advertisement panels on the Underground ilway, on the hoardings, and in the newspapers— n hardly fail, ere long, to educate the public eye to e point of preferring good to bad in the graphic eal. Nor will the small trader be slow to follow his ders, when once he is convinced that good taste is ood business.” Then, since “great oaks from little ns spring,” who knows but better architecture may ow better lettering? At any rate, bad lettering ould not be complacently allowed to spoil good hitecture.

* * * *

Those gentlemen who, being disqualified for enlist- nt, or are awaiting with impatience the sequel to e station, will find in our correspondence column this ek the revelation of a rich opportunity of doing the ate some service. “Some,” if we may be pardoned e colloquialism, may be here construed in the fulness its American sense. Red Cross work is offered em, and they will rejoice in its practical character. A ef course of training that will fit them for rendering ellent service is immediately followed by the means applying the knowledge and skill acquired. As etcher-bearers to meet the wounded at the railway tions, as hospital orderlies, and in various other ys, they will be able to get rid of the horribly guilty eling that oppresses the heart of the man who is nscious that he is not “doing his bit.” To be able o do it, not by killing and maiming, but by succouring e injured, will, for all pitiful and humane minds, be e crowning recommendation of intensely interesting rk, for which helpers will be increasingly needed as e war goes on. On all grounds, Mr. Fletcher’s appeal irresistible, and we have very great pleasure in illing attention to it.

* * * *

In a paper on “Engineering Colleges and the War,” ad last Friday before the Institution of Mechanical ngeers, the authors, Dr. R. Mullineux Walmsley d Mr. C. E. Larard, have done well to bring into ominence the services that engineering colleges are ndering the nation in the matter of munition work. hat is of even more importance, they draw attention e necessity—now practically demonstrable—of uipping all engineering colleges with up-to-date

machinery and appliances, and of bringing all such institutions under centralised control. Thus organised, these colleges would be prepared to make an instant response to the Government call; and the deplorable wastage of force inevitable whilst so many of these institutions are merely isolated units, often mildly antagonistic rather than mutually helpful, would give place to a real economy of effort, making for higher efficiency and for swifter progress. Obviously this is not simply an engineering matter; it involves a principle of universal application to industrial and educative effort. Neglect of economy is perhaps our greatest national defect, and it is seen very flagrant in our failure to link up systematically the unrelated or unco-ordinated elements that, rationally unified and consolidated, would soon win back for us the industrial supremacy that has been carelessly allowed to drift away from us.

* * * *

Our excellent contemporary the “Spectator” con- tinues almost unremittingly its benevolent interest in the rural cottage problem. As our readers are aware, its editor, Mr. St. Loe Strachey, has made practical experiments in cottage building, and is a pioneer in the movement. That we are not always able to see eye to eye with him in this matter in no way lessens our respect for his good intentions, nor our appreciation of the trouble and expense he has incurred in the endea- vour to bring the rural housing problem to some sort of a practical issue. Perhaps the chief point upon which we have always felt unable to agree with him is the tacit assumption that cheapness is a constant factor to which all other conditions must unquestionably be adjusted. In our opinion the more rational view is that if labourers are not paid a sufficient wage to enable them to be decently housed at a fair rent, that is the side of the argument upon which readjustment is most needed. This question, however, being somewhat outside our province—although we always insist that an architect is bound to be more or less of a publicist or sociologist—we cannot discuss it in detail. All that we care to say here and now is that we object strongly to the assumption that because rural labourers’ wages are miserably low their cottages must express the last word in cheapness.

* * * *

Unfortunately the country gentlemen and landed proprietors among whom the “Spectator” circulates so largely seem to be completely obsessed by this craze for cheapness. As a recent example, we note the advocacy of pisé work and “clay-lump” walls. “Clay lump” for walls, a correspondent explains, is large sun-dried brick of 9 by 18 by 6 inches, made from the chalky boulder clay, which is dug out, watered, mixed with barley straw well trodden by a horse, and stirred about with the spade. Twelve of such bricks, against ninety-six ordinary bricks, will build a yard of nine-inch wall, and the price has been 1s. 3d. against 4s. 6d., and “clay lump” can be laid four times as quickly as brick. From two to six coats of hot tar, we are told, may be called for to render it capable of standing fifty years, and on the last hot surface a dressing of mixed sand, mortar, and tar is brushed, “giving further weather protection and a good appearance.” When the Local Government Board insisted that brick should be used for cottage building, this interference was, in the opinion of this correspondent, a proof that “officialdom was either ignorant or stupid”! At the risk of coming under this politely expressed condem- nation, we will venture to remind its robustious author that the discussion to which he has made such a striking contribution is mainly about habitations for human beings. It is he who turns our thoughts in another direction when he adds: “In mixing straw for a plaster facing, go and get it from the pigs’ bed.” We prefer to make no further comment on this reactionary view of rural economy.

HERE AND THERE.

THE "Eugenics Review" is not my favourite literature; no summer days have seen me with it by the sea, nor do I yearn, in winter time, to draw up to the cheery fire and read diligently about the science of race culture; I have, in truth, never seen the "Eugenics Review," but an extract from its most recent issue has caught my eye, and that is how I come to mention the racy sheet in this column. A professor discourses on "The Influence of Racial Admixture in Egypt," and at first sight there would appear to be nothing in this to concern me particularly, but I go on, and find the very foundations of all architecture and the crafts being dealt with. There is need, therefore, to look into this article. The eugenics professor would make it clear to us, first and foremost, that it is a gross fallacy to imagine that primitive people, left to themselves, have any instant desire to attain to the arts and practices we call civilisation. Nothing indeed is more alien to them. "Left to themselves, they do not attempt to initiate any of the arts and crafts of civilisation." To illustrate his point the professor goes on to tell us that the art of building took its origin from the burial customs of the proto-Egyptians, and the special conditions, climatic and otherwise, of their country. "And if, as Lethaby has truly said, 'Architecture is the matrix of civilisation,' Egypt must be regarded as the place where not only this matrix was evolved, but also as the birthplace of the ancillary arts and crafts of the weaver, the stonemason, the carpenter, and the worker in metals, not to mention the invention of writing, which represented some of the essential elements of the civilisation that grew up in association with it. . . . The dwellers on the banks of the Nile did not deliberately plan to erect stone buildings, or to make metal tools and weapons. They were gradually led on step by step to the realisation of the possibility and the desirability of doing such things and to the acquisition of the necessary new knowledge and skill, the driving force in most instances being some endeavour entirely alien to the result eventually attained. . . . If there had been any conscious striving after such discoveries and inventions it would be necessary to assume that primitive man foresaw as in a dream the glories of architectural achievement and the vast potentialities of metallurgical knowledge; but we know as a matter of historical fact that, so far from this being the case, it took him centuries to progress in the arts and crafts." Clearly this belongs to Mr. March Phillipps's own particular province; it demands the specious manner of comment, with acres to fill, and no finality; whereas to me, a humbler scribe, there are but a few lines available. Suppose the last suggestion of the professor were true! Then Primitive Man, whilst scraping on a bone the outline of the beastie, must have had in his mind all the time a vision of the Post-Impressionist, and while shaping his arrow flint was taking a conscious step towards that penknife which competes with the pen and the gardener for paramount interest in School French. So, too, the mastaba builders on the Libyan desert must have had a vision of the Tower Bridge! This being obviously untrue, the professor is right in his first assumption, and taking that as a basis it is easy to deduce (1) that the conscious artist is inherently wrong because he does a thing for other people's approval, and (2) that the real artist is right because he does a thing for the pleasure he himself gets out of it. But when all is said, this association of eugenics with architecture is an unhappy affair. It makes one think almost that the professor has an idea of establishing an architectural stud, where, under scientific direction, perfect products of Gothic or Classic might be created at will, not to mention specimens of art and craftiness that could go down to posterity with a pedigree of unimpeachable excellence.

UBIQUE.

CORRESPONDENCE.

The Architectural Association Voluntary A Detachment.

To the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.

SIRS,—The necessity and importance of Red Cross work hardly need emphasis at the present time. The interest to be found in it can be attested by any one who has undertaken it. What does require emphasis is the need of a constant supply of workers, and I venture to draw the attention of your readers to the detachment now registered as "London 43 V.A. Westminster Division," with Headquarters at the Architectural Association, 18, Tufton Street, S.W.

There is plenty of work to be done, and any man who joins may be sure that his services will be useful as soon as he is qualified. Classes for instruction are held as recruits come in. The first course of First Aid Lectures was given by Dr. Spicer in September. Mr. Brydone, the Medical Officer of the Detachment, continued with a course on Home Nursing, and has given a course on First Aid, for the examination at the end of this month. He is now holding a third course, and another is to begin soon after Christmas. There are between 60 and 70 names on the roll, of whom between 30 and 40 are already qualified.

As this is the only men's Detachment in the Westminster Division, they have been called upon to assist in many ways. Thus, we provide orderlies for the Officers' Hospital at 24, Park Street, and for Lady Violet Brassey's Officers' Hospital, and we propose to do the same for the large Soldiers' Hospital soon to be established at 184, Queen's Gate. We have volunteered professional services in advising the Westminster Division on the various houses which may be turned into hospitals. Our stretcher-bearers hope to assist the London Ambulance Column in meeting the trains of wounded at the railway stations and conveying them to hospitals, and we are almost hoping for another successful air raid, because the police have asked us to be ready to render first aid and do what we can to succour the victims. Our Commandant, Mr. Ambrose W. Coffin, is constantly asked for volunteers to undertake all kinds of jobs, from conveying stricken convalescents across London to lending a hand to meet a rush of clerical work at Headquarters. Parades for company and stretcher drill are held under the instruction of Sergeant Daniels, of the R.A.M.C., who in quieter times is an engineer in Canada.

We make a special appeal to architects and men of kindred occupations, because through them the Detachment came into being, and most of our members are drawn from these callings. But we welcome all men of goodwill from any station in life. The only conditions are that they should be either not eligible for military service or already attested under Lord Derby's Scheme, and the only financial contributions required are a nominal entrance fee and the provision of their own uniforms. The work will increase as the war goes on, and the more workers we can have the better. It is certain that no man who undertakes this work will regret it, and the knowledge he will gain is such as every man ought to possess, and as will make him more useful in every branch of life.

For further information and application for membership inquiry should be made of the Quartermaster, Mr. Wilkins, at 18, Tufton Street, or the Commandant who can be seen there on Wednesdays at 6 p.m.

HENRY M. FLETCHER,

Hon. Secretary, Architectural Association
18, Tufton Street, Westminster.



LONDON FAÇADES. V.—PHOENIX ASSURANCE BUILDING, CHARING CROSS.

J. M. GANDY, ARCHITECT,



MONUMENTS. VII.—MONUMENT TO SENATORE G. B. PONZIO IN THE CHURCH OF SS. GIOVANNI E PAOLO, VENICE.

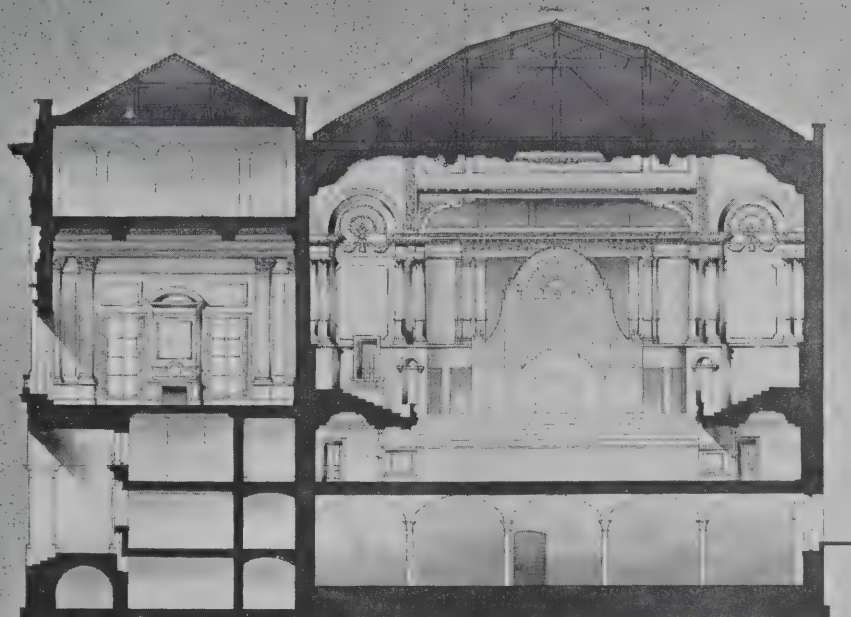
IGNOTO LOMBARDO, SCULPTOR.

THE MANCHESTER FREE TRADE HALL

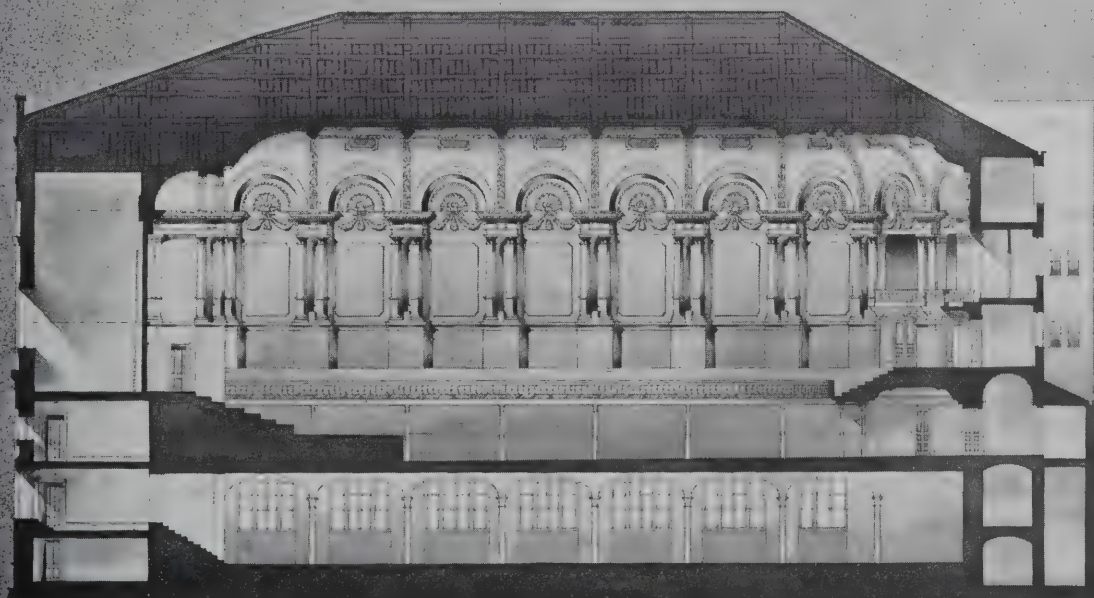
Edward Walters: Architect.

Scale Eight Feet to the Inch.

Scale of Feet.



The Cross Section:



The Longitudinal Section.

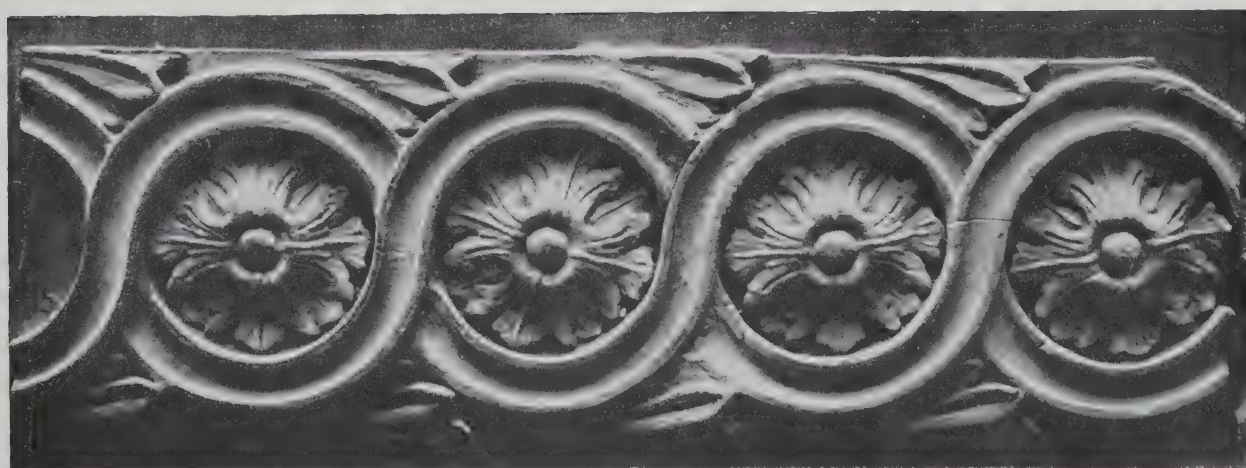
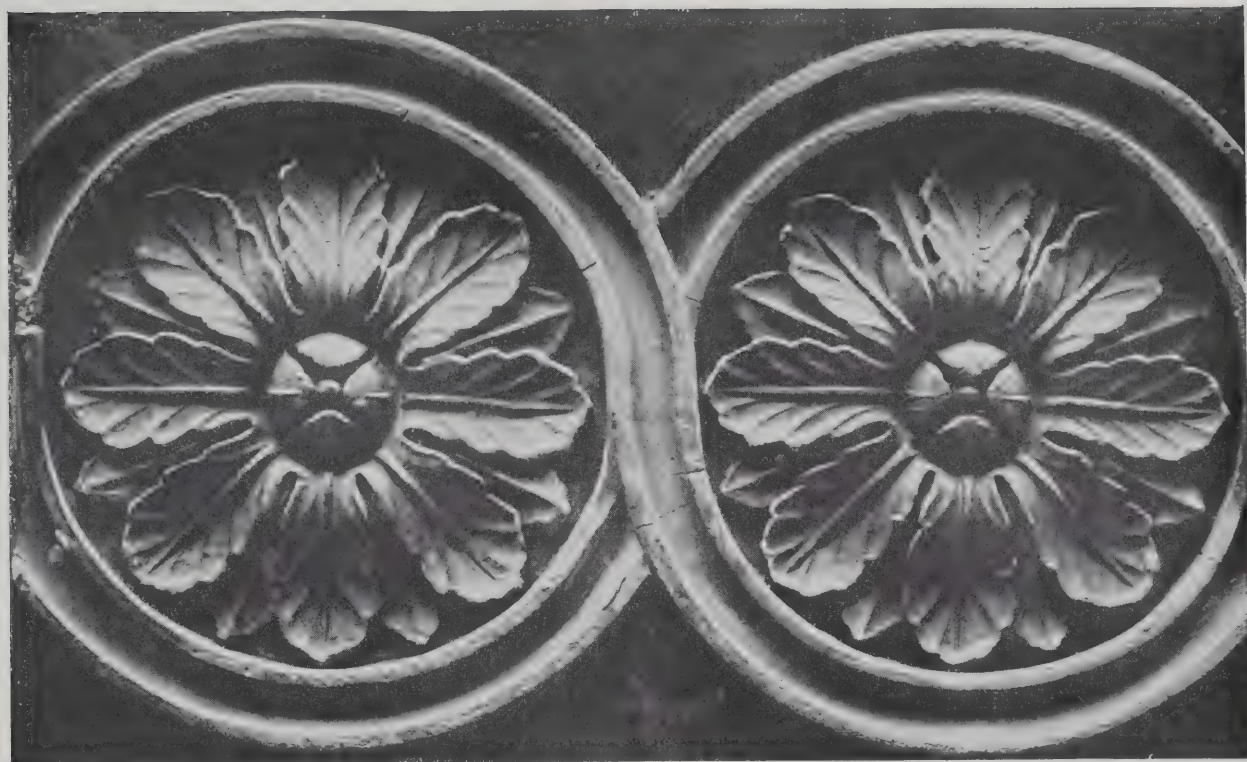
STUDENTS' DRAWINGS (SERIES II.). X.—FREE TRADE HALL, MANCHESTER: SECTIONS.

MEASURED AND DRAWN BY GORDON HEMM.



MODERN AMERICAN ARCHITECTURE. XXVIII.—HOUSE AT PASADENA, CALIFORNIA.

REGINALD D. JOHNSON, ARCHITECT.

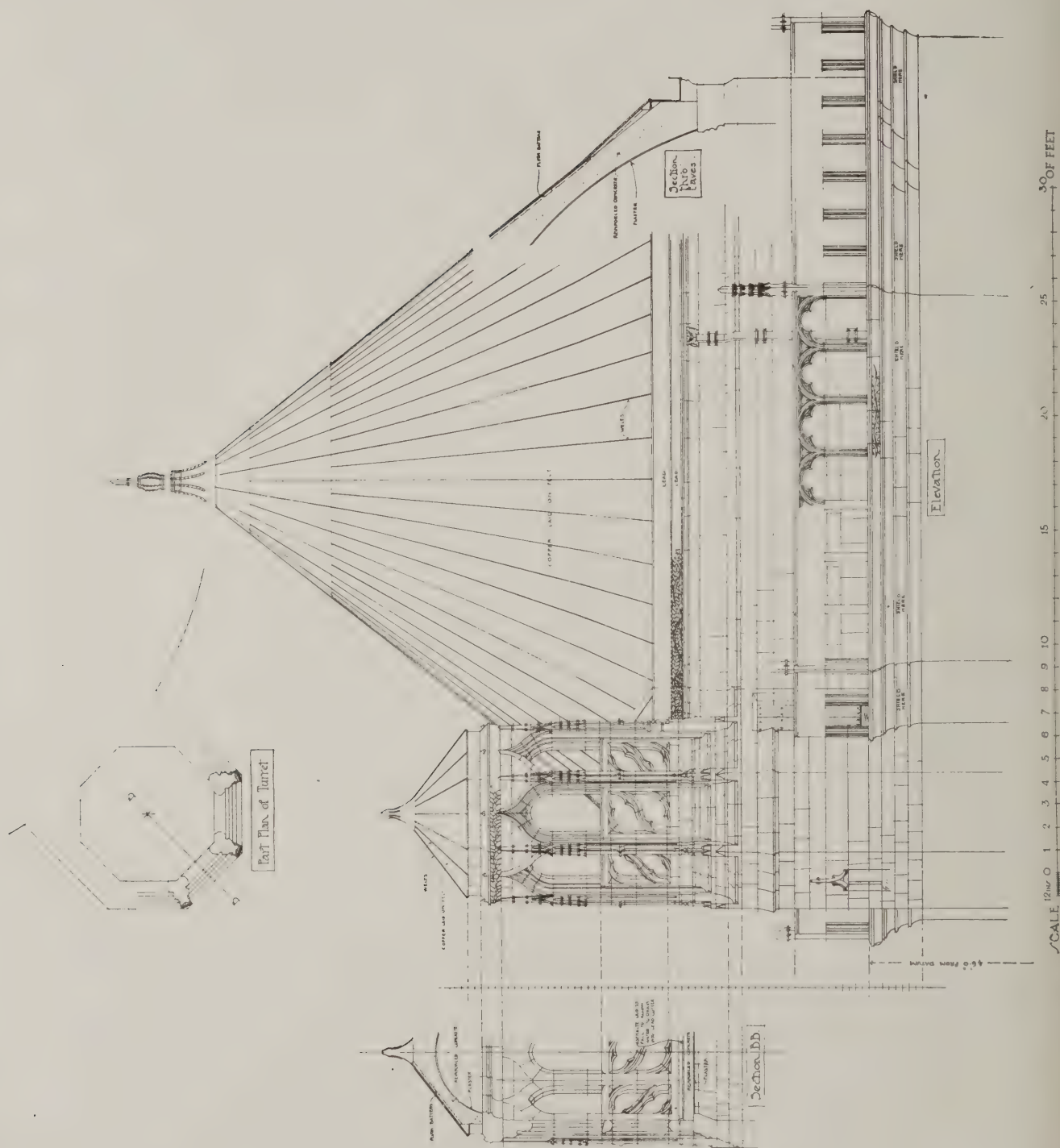


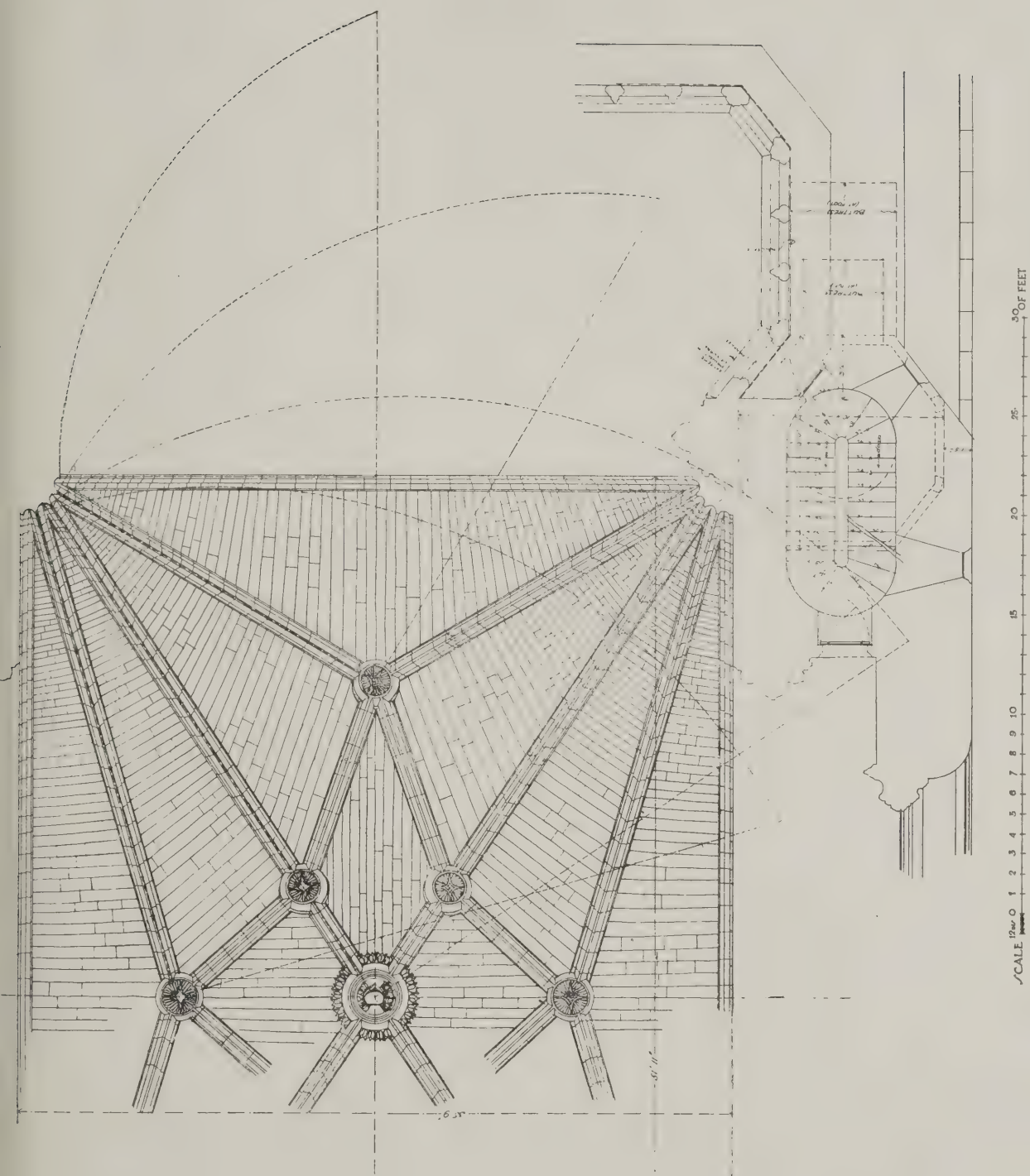
DETAILS OF CRAFTSMANSHIP. XLV.—PLASTER CASTS OF "GEORGIAN" ENRICHMENTS.



SMALL HOUSES OF THE LATE GEORGIAN PERIOD (SERIES II.). XV.—MORDEN LODGE, MORDEN, SURREY.

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ARCHITECTS' WORKING DRAWINGS (SERIES II.). XXII.—LIVERPOOL CATHEDRAL: DETAIL OF UPPER PART OF CHAPTER HOUSE
AND PLAN OF TRANSEPT VAULTING.

G. GILBERT SCOTT, F.R.I.B.A., ARCHITECT.

THE PLATES.

Phoenix Assurance Building, Charing Cross.

THE plate shows the rear elevation of this excellent little building, erected in 1805, and now marked down for demolition, in order that the Admiralty may be opened out into Charing Cross. The side is stuccoed and displays a very skilful use of allied classical features. The elements are simple enough in themselves; it is the manner in which they are disposed that stamps the design with character.

Monument in SS. Giovanni e Paolo, Venice.

The church of SS. Giovanni e Paolo at Venice contains the monuments of the doges, which are of dominant interest, but there are also some monuments of less noteworthy personages, among them this monument to the senator Ponzio (or Bonzio), who died 1508. Judging by modern standards, we should say it is essentially a sculptor's monument, but, as our readers well know, in the days of the Italian Renaissance sculptor and architect might well be the same person, and a proper relation between the two arts should be observed; whereas to-day, while few architects can execute a piece of sculpture, just as few sculptors can be trusted to produce a satisfactory architectural setting for their own work; and consequently "sculptor's architecture" is a by-word among architects of refined taste. In the example now shown—sculpture—the four figures in the niches, the little caryatids at the ends of the entablature, and the recumbent figure of the dead senator—is charmingly integrated within its architectural frame. Neither competes with the other, the sculpture and the architecture being blended together most happily.

Free Trade Hall, Manchester.

This is the third plate in the series of illustrations of Free Trade Hall at Manchester; it shows the cross-section and the longitudinal section of the building; front and side elevations were shown on the plate in our issue for August 18, and a half-inch detail of the dome in the issue for December 8.

House at Pasadena, California.

Although not quite so good an example as the house of the same architect which was illustrated in our issue last week, this is still an excellent piece of modern domestic work, broad and straightforward in treatment, free from trivial excrescences of the kind which so many of our own new houses. The extensive porch is essentially an American feature. In this example it extends right across the garden front, the living room (26 ft. 6 in. by 17 ft.), the dining-room (16 ft. by 16 ft.), and the office opening on to it. On the first floor are three large bedrooms and two bathrooms, with linen and other rooms, and, at each end, an all-air sleeping porch.

Plaster Enrichments.

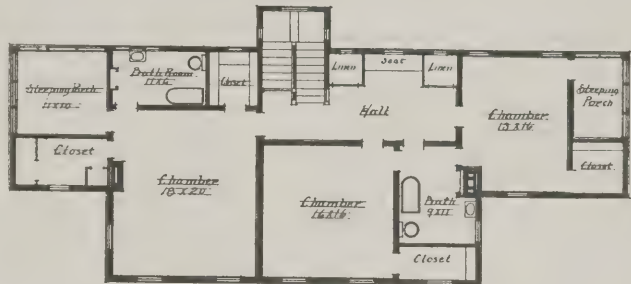
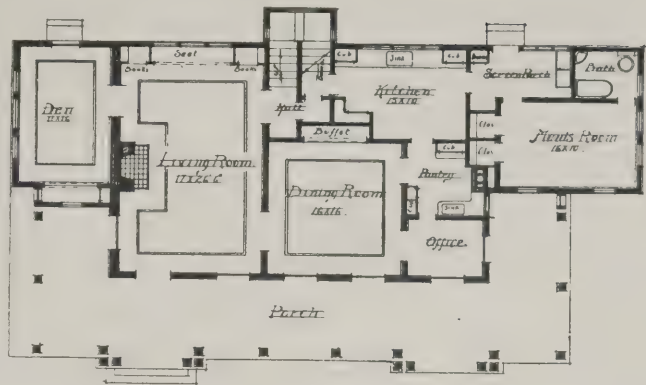
The plate shows to a large scale three differing types of rosette ornament, from the collection of Messrs. George Jackson and Sons. The rosette is a detail of ornament much used, and these fine examples should be of service.

Morden Lodge

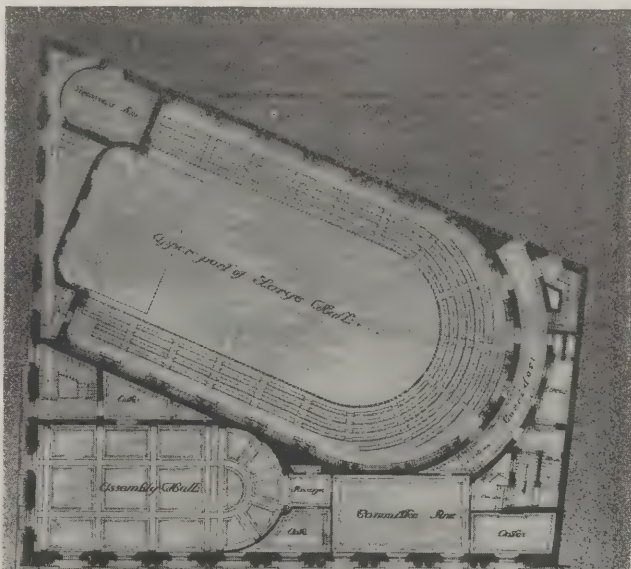
This house dates apparently from the beginning of the nineteenth century. It has an air of severity, but it means bleak, the porch and the window treatment serving to counteract the general plainness. The house has lately been altered by Mr. R. Frankenson, F.R.I.B.A., who has put in new windows of small panes and thin bars, in place of the large plain panes favoured by a Victorian occupant.

Working Drawings of Liverpool Cathedral.

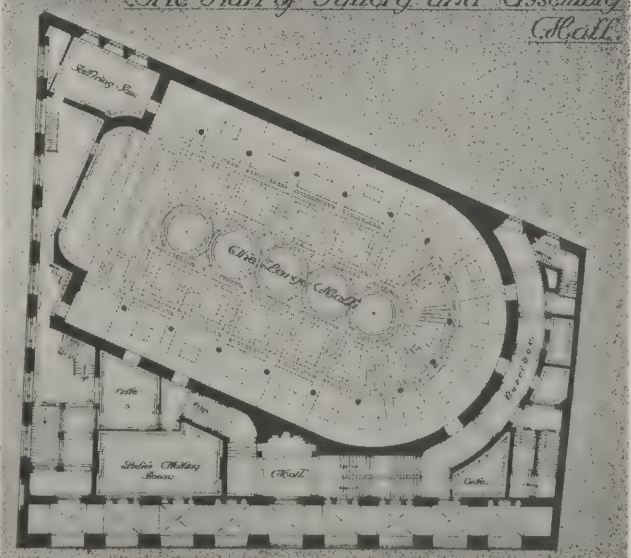
The chapter-house roof and turret and a plan of the sept vaulting are shown on the plate. The roof is reinforced concrete covered with copper laid on felt.



HOUSE AT PASADENA, CALIFORNIA.



The Plan of Gallery and Assembly Hall.



FREE TRADE HALL, MANCHESTER.

MUSICAL ACOUSTICS IN THE THREE CATHEDRALS OF LONDON.

[SPECIALLY CONTRIBUTED BY H. BAGENAL.]

SOME time ago the writer had the opportunity of comparing the effects of great works of music in the three cathedrals of London. The works heard were Bach's High Mass at the Abbey, his Matthew Passion Music at St. Paul's, and Vittoria's Tenebrae in Westminster Cathedral.

The advantage of hearing both choral and orchestral music in such buildings will be granted by those who suffer from the interior detail of the Queen's Hall; but what is important to discover is, how far fine ecclesiastical architecture and good hearing are at variance, and what compromises are possible between the two. At first sight it would appear absurd to take strings and wood-wind and women's voices out of the concert room and expect anything like the same result from them in the caves of Westminster Abbey. Set the acoustic plan of the Queen's Hall (there is no other in London to be seriously considered) side by side with the cruciform of the Abbey, and it is obvious there must be a radical variation of musical setting. Whether for good or for evil, the result will be different.

All three cathedrals are cruciform, and, for the moment, can be compared as one, with the simple acoustic plan of a concert hall. The primary difference is, that the concert hall is one room, the church a number of rooms. Stated simply, the concert hall has a resonant source, the orchestra, from which sounds radiate to each hearer, and having passed him are either absorbed or dissipated or employed against suitable surfaces to produce a definite sonority in the building.

Not so the church. An apse where suitably employed (as in Bentley's cathedral) can be used as a source of sound, but its employment is the exception. In the two other cases the choir sang, in the Abbey in the first bays of the nave, in St. Paul's in the chancel and round the east piers of the dome. The sound thus having neither an initial direction nor free radiation filled each cell of the church successively, and when filled was not absorbed but continued its motion.

All wall surfaces in a church being reflecting surfaces, and none resonant, it may be asked how churches are popularly known for their resonance; the answer being that no wood-lining or raised panelling is as resonant as a contained volume of air capable by its shape or position of resolution into vibrations of its own. (Sonority is a better term for the resonance of a volume of air.) These volumes of air are found in a cruciform church by the very nature of its structure. Now in a room the phenomenon is well known of the sound waves from a strong musical sound forming by reflection into nodes and ventres of their own and emitting a note known as the note of the room. (The phenomenon known as *Interference* is the interference with continuous music of such primary sound waves unable by the shape of the room to resolve themselves harmonically.)

In a large concert hall this result is generally impossible, by reason of the extent of the contained volume of air; but in the church it is otherwise. The transepts, the lantern, the chancel, the vaults of aisles and nave, of such a church as the Abbey, are all separately excitable by sound waves of certain lengths into vibrations of their own, and once resolved are capable of either reinforcing or interfering with whole sounds or components of sounds emitted by organ, orchestra or choir.

In the case of the B minor Mass in Westminster Abbey sung by the Bach Choir, nothing was more noticeable than a strange almost unearthly purity of

tone from the strings and the resemblance of the soprano soloists to boys' voices of exceptional power. Now the quality (or timbre) of a musical sound is derived from its overtones, or harmonics, while the *fundamental* is its soul, or that which most truly identifies it with absolute music, at the same time giving it its pitch or individuality. Hence the emotional quality of a woman's voice is due to her possessing certain harmonics not found in a treble or boy's voice, which is purer than any other. Hence also a Cremona violin is of supreme value, possessing only those harmonics that make it a beauty of tone.

The effect of the Mass in Westminster Abbey was that of sustained purity and beauty of tone arising from the continual reinforcing of fundamentals by the building itself. Moreover through the Sanctus the organ gave the effect at intervals of sounding from the whole church rather than from a given position. Similarly no one who heard the sweep of the "et sepultus est" will forget the final tender breathing of the Cathedral itself as though on the ultimate confines of physical expression.

But the very conditions that go to produce beauty of tone are just those which, without special training, must lead to contrapuntal and harmonic confusion. The large volume of air contained in the church, itself a whole yet capable of interdivision, is increasingly difficult of musical control. The performance in the Abbey lost as much in confusion as it gained in beauty of tone.

A comparison with St. Paul's is interesting, as the latter may be considered for the moment as a cruciform church having an enormous and disproportionate lantern. The dome and transepts form an acoustical system, the nave and aisles another. The Matthew Passion Music was heard from the east of the nave. Sound heard from this position derived from such primary waves as have directly traversed the crossing, and any secondary waves that may be passed on from crossing and dome are delayed and modified. Also interference due to reverberation in the dome itself acts as a veil between nave and choir, through which the primary waves have to penetrate. It was observed that the strings were barely audible, the organ music especially created a "veil of sound," the unaccompanied chorales in unison were pure and magnificent, and the one distinct and perfect utterance was that of a boy's voice articulate at the farthest point of the nave and aisles. The inaudibility of the strings in the Matthew Passion is a peculiar loss. They were used to accompany the voice of Christ alone. In the voices it was observed that those were heard most satisfactorily which were strong, slow or pure.

This simple oratorio form of alternate solo and choir in unison is perhaps best fitted for St. Paul's. It is doubtful whether elaborate polyphony could ever be really successful within it. We have called its chief acoustic characteristic an enormous disproportionate lantern. Let us consider the characteristics of the Continental Gothic church for which Bach wrote his music. They are more important in this respect, and are something as follows: *No lantern*, nave short but lofty, shallow transepts, choir apsidal with or without a chevet. In comparison with the English, therefore, the Continental church is more of a unity, dangers of interference and delay are fewer, but (owing to heavy conditions of sonority, and therefore of acoustic control, are nearly parallel. Bach wrote his greatest choral works for the Thomaskirche and Nikolaikirche at Leipzig (15th-century Gothic).

they, therefore, can be compared favourably, but not equally with these churches, but St. Paul's undoubtedly.

Interference and delay are the great enemies of polyphony and harmonic accompaniment. But these phenomena illustrated in St. Paul's must be distinguished from the complexity of the Abbey, which, while heightening all effects both of instruments and voices, must always be difficult, but not impossible, of acoustic control by voices singing under laws of counterpoint. Difficulties felt in the Abbey would inevitably be felt in the Thomaskirche at Leipzig; but the fact that they can be overcome must be obvious from the existence of the great High Mass itself.

It must be remembered that the polyphonic tradition of the age of Palestrina was preserved in the church music of Germany when it was being undermined elsewhere. Luther was a musician, and carefully preserved many items of the musical man liturgy; and allowed choral music to Latin services. On alternate Sundays at the two Leipzig churches the sung liturgy included the Roman Mass early in the morning, a prelude, a motet or oratorio, Kyrie (sung once), Gloria in excelsis, psalms, and hymns. Moreover, the eight Gregorian Masses were still familiar to men's ears, and composers continued to use them, though no longer strictly. Bach's B minor Mass occurred when the supreme individual genius liberated by the Reformation arrived in time to use the supreme choral traditions of the Middle Ages. What were these traditions? To study them we have but to go to Bentley's Cathedral, where the plain song and polyphony of the greatest Early Masters can be heard perhaps better than anywhere on the Continent.

Let us consider Vittoria's *Tenebrae* heard from the end of the nave; the experience is one of severe purity and of completeness of effect. Here the architect and composer seem at one, so truly do form and sound contribute to an artistic whole. One might almost believe that Tallis or Byrd had helped inspire the great architect of the nineteenth century. But in reality the unity of effect is due to additional choral training in a building of traditional plan on the part of the musician, and to the careful study and re-incarnation of that plan on the part of the architect.

Plain-song from an acoustical standpoint is destructive. In the Gregorian school it developed into intoned recitative having a definite reciting note which *must* have borne some definite relation to the volume of air in the church, and, therefore, to its shape and plan. It was almost certainly that note which was most tuneful to the congregation, best to sustain by the reciter, and, later, easiest to modulate from by the choir, or a compromise between these three conditions, all of which were themselves conditioned by the shape of the church. In the Gregorian School the church was the early basilica of Peter at Rome with transepts; in the earlier or Ambrosian school the basilica of Ambrogio in Milan without transepts.

As is well known, the Gregorian School spread all over Europe and developed through various forms of melody and discant into polyphony, but preserving its great characteristic, namely, that in a given mode the reciting note was the dominant or keynote of that mode; that is to say, through all its developments Gregorian music maintained its close relation to the shape of the church of transeptal or cruciform plan, and must have received many modifications directly through the development of that plan.

Polyphony was the superposition of three or four melodies, each melody obeying the Gregorian laws of harmonising under strict contrapuntal rules. The relation of music to the shape of the church was therefore not interfered with while the Gregorian

tones were in use, and their whole influence on music must have been to keep it in touch with acoustics. The singing of the choir at Westminster Cathedral is a striking example of this. The church itself is a definite factor in the music. Let us consider its acoustic qualities. It is lofty, the transepts are shallow, the chancel is lower than the rest of the church (its dome being smaller than the other three), nave and crossing form three equal bays identically roofed, and an apse is used for a definite purpose. At the opening of a chorale in parts the tenors, let us say, will give out a pure note which is sustained for an appreciable time. The sound fills the apse first, and is both reinforced by its volume of air and given an initial direction by its shape. Issuing from the apse it fills first the chancel, then expands naturally until every cell of the church is filled, and then, but not before then, will any variation or addition of that note be made. A phrase is then sung, and as it ebbs slightly, leaving, as it were, room for another, it is joined by the second, third, and fourth parts in turn. Bass, tenor, contra-tenor, and treble find their appointed aerial positions in the church, and each receives reinforcement definite but not violent in some portion of it. Thus transept, aisle chapel, apse, and dome have their voices "demanding and responding in God's praise." At the close the process is reversed; the music is simplified to a pure evenly sustained note and withdrawn, a ghostly tide, from the ends of the building (in other words the invariable *diminuendo*). The organ is not heard from first to last of the service, yet vocal pitch is maintained or varied with perfect accuracy. The building plays and is allowed to play its proper part.

The acoustic qualities of the building, its advantages and defects, have of course to be learnt by practice and diligence, but what a Gregorian choir has to learn for eight modes could surely be learnt by a modern choir for two. It might mean rehearsing in the Abbey for several months, it might mean radical changes in the accepted time, it might mean a species of composite screen round the apse arcades. But if the Abbey could once be acoustically mastered, the result in the B minor Mass might be stupendous.

OUR SPECIAL ISSUE.

NEXT week's issue of this Journal will be a Special Issue. Its chief feature will be a 40-page supplement devoted to the very noteworthy example of urban housing which has been carried out on the Duchy of Cornwall estate at Kennington, London, S.E., for H.R.H. the Prince of Wales, according to the designs of Messrs. Adshead and Ramsey. The housing problem is one of paramount interest, more especially in its relation to the new Act governing town planning. Architects and builders are closely concerned with this matter, and what has been done at Kennington will be of keen interest to them. The houses are of a variety of types—workmen's cottages, workmen's flats, middle-class flats, maisonnettes, old people's dwellings—and there are also some admirable examples of small shops, a crèche (the only one of its kind in this country), a vicarage, and the Estate office. Photographs, plans, and elevations of these, all specially prepared, will be given as a series of plates, with a prefatory article by Professor Abercrombie, M.A., describing the scheme in general, its architectural features, and details of the planning; the whole being bound together, with an attractive title-page. The issue will also include a number of illustrations showing some of the important buildings completed during the past year, a summary of the architectural and building events of 1915, and news features of general interest. The price of the issued will be 6d.

THE RUISLIP-NORTHWOOD TOWN-PLANNING SCHEME.

AT the last meeting of the Institution of Municipal Engineers a paper was read on "The Benefits Derived by an Urban District Adopting a Town-Planning Scheme" by Mr. Louis Carr, Surveyor of the Ruislip-Northwood Urban District Council. It gave an account of the Ruislip-Northwood town-planning scheme. This scheme received the approval of Parliament in September, 1914, and as the period of twelve months, during which all claims for compensation and betterment have to be lodged, has now elapsed, the author was able to state generally the benefits which have been secured to the public and the landowners.

The north end of a 60-ft. street, practically running north and south through the centre of the district, has been amended to obtain a better outlet across some golf links. In the original scheme a road was proposed across these golf links, but, owing to heavy opposition, the Council decided to drop it; the Local Government Board have, however, reverted to the original scheme. Another alteration was with regard to a new road branching from an existing road which was shown to run over existing buildings. This was amended so as to avoid pulling down the buildings. A further alteration was a very interesting one. An alternative line of route was shown for a new 60-ft. road, but the Local Government Board decided that alternatives could not be shown, and a definite line had to be fixed. In another case two streets were indicated on the map by dotted lines, together with a single alternative road. The Board decided that the single alternative road had to be omitted. In the case of a new road which was shown as 40 ft., but had to be increased to 50 ft., the centre line had to remain as shown on the map.

One cemetery, allotments, land for store yards, and a refuse destructor, together with certain open spaces, were acquired under the Public Health Acts during the progress of the scheme, and could not therefore be included in the approved scheme. With regard to the suggested second cemetery in the south of the district, the Board considered that the time was not ripe for another cemetery to be provided in this quarter, though the author regarded this as a mistake.

The building lines shown on existing streets have been approved, except in one case, where a reduction was made from 25 ft. to 15 ft. The reason for this alteration was that the ground receded very quickly from the roadway, and serious difficulties would have arisen with regard to connection with sewers, aspect, etc. It would be advisable here to observe that in future schemes, if building lines are reduced under similar circumstances on one side of the street, arrangements should be made to set them back on the other side.

Number of Buildings to the Acre.

The first alteration was the inclusion of a further area of land to carry from eight to twelve buildings to the acre, the reason being that this area lent itself to more equitable development than the land unit which had been fixed. A further alteration provides for a more gradual form of development in the future. Another small portion was scheduled under the draft scheme as six buildings to the acre, but after the inquiry, at which the owner put a number of facts before the inspector, this limitation was altered by agreement

between the council and the owner, with the result that approximately ten buildings to the acre can be erected. As the result of opposition, the Local Government Board agreed to a certain area being scheduled at eight houses to the acre instead of six as provided in the draft scheme.

A limitation of four buildings to the acre is made for the highly residential part; six to the acre is the rate for the areas at present developing; eight and twelve to the acre is also adopted in other areas for the same reason; while twelve is also adopted for the shopping and factory areas, where it is desirable that more buildings to the acre should be allowed both to secure artisan and working class buildings near the places of employment, and also because by reason of the shops and business premises it would not pay to erect better-class houses.

New Streets.

There are about eighty-three new streets and footways to be constructed under the scheme. The district will benefit greatly by the linking up of existing streets and main traffic routes, and also by the improved access to railway stations, and the bringing of certain outlying areas into communication with others by streets with good gradients, instead of by streets which have a gradient of 1 in 7. For instance, when one of the streets is made, a distance of about three miles will be saved in communication between certain parts of the district.

Another great benefit, combined with economy, will be derived by the laying out of the streets on the line of the outfall sewers to the existing and new sewage works. Arrangements have also been made to take the house drainage from these new streets. A certain amount of the cost of these sewers will be defrayed by the frontagers, but such sum is not payable until the land is used for purpose other than agriculture, except by special agreement. Many thousands of pounds will be saved to the district by thus laying out the streets to serve all purposes for which streets are generally required.

Streets shown on the map of a greater width than 40 ft. will be constructed and paid for by the Council, but it is possible that as the Council now have the power to make up streets with grass margins, etc., no extra expenditure will be incurred beyond that of scavenging and maintenance.

When any plan is submitted for a new building to be erected in any of the existing streets, the Council can require the street to be widened to the width shown on the map, and will bear the cost. If the Council require a street to be widened before any plan for a new building is submitted, they have power to do the work after giving two months' notice. The cost of carrying out widenings in such case will include compensation for any buildings required to be altered, demolished or removed, while the construction of the necessary carriage and footway and fencing off the land has also to be paid by the Council.

In shopping areas where a carriage road is intended to form the principal approach or means of access to buildings, it is required that the kerb or outer edge of the footway of the street in front of such buildings shall be set back a width of 6 ft. from the side of the carriageway, and the width of the footway reduced accordingly. The intervening space between the new

line of the kerb and the original side of the carriageway is to be so constructed as to fall towards the carriageway. This requirement is believed to be quite new and should prove of great value, as by means of it tradesmen's goods can be delivered by vehicles standing on this set-back where they will not impede the fast traffic.

Building Lines.

In streets where no building lines are shown on the map no buildings can be erected nearer to the centre of the street than 30 ft., or nearer to the boundary of such street than 15 ft. Provisions are inserted with regard to dwellings around quadrangles, but in any case there has to be a width of 60 ft. between every house. There are also saving clauses with regard to lodges appurtenant to a dwelling-house which may be built in advance of the building line, and also in the case of long frontages, say, a continuous frontage of more than 300 ft., where parts of such building may project 7 ft. in advance of the general building line, provided the projection does not exceed one-fourth of the total length of the frontage. The above building lines do not prevail in the case of shopping and business premises, the lines for which vary according to the different widths of the streets. This is another means by which to secure the extra width of the carriageway to business premises.

Another important provision is that no post, rail, or other obstruction shall be erected in front of the forecourt of a shopping premises; but cellar-flaps are allowed, provided they do not project more than 3 ft. in advance of such premises. The building lines for buildings and projections on corner sites are specially provided for. Bay windows, chimneys and porticos are allowed to project 4 ft. in advance of the building line, except in the case of a street exceeding 40 ft., where they may project 5 ft., provided that the projections do not exceed three-fifths of the total width of the buildings, and are not in any case nearer to the boundary lands belonging to another owner than the extreme amount of such projections.

The proportion of the area of a street which may be covered by shops and other buildings is one-half of the whole area of the curtilage, with the proviso that, in the case of a shop the extent of the buildings shall be measured at a level of 14 ft. above the mean level of the footway in front thereof. This appears to be a reasonable provision. With regard to dwelling houses, one-third of the whole area may be covered with buildings not exceeding one storey in height and one storey in roof; but in cases of larger buildings the area covered shall not exceed one-fourth.

Provisions are made with regard to space to habitable rooms. These stop, to a certain extent, the erection of houses with kitchens facing each other at a distance of say, 2 ft. or 3 ft. away, which are practically always dark and have bad ventilation. The clause with regard to the projection of wing buildings is another important one, the idea being to prevent, in addition at the rear of premises of long wing buildings, which retard the circulation of the air and sunlight to the buildings of the premises.

Character of Buildings.

In selecting the areas to be restricted to buildings of the warehouses class, shops or business premises, consideration is given to the lay of the land, the position

the railway stations, the convenience of access, and the amenity of the district. The area for factory purposes has been enclosed in the vicinity of the existing sewage works.

The clause relating to the height of windows in habitable rooms received considerable attention, not only by the Council, but also by landowners, builders, etc., and the final form represents the utmost advice that could be made. This provided that no bedroom or other habitable room shall contain less than 500 cub. ft., and in dwelling one living-room at least shall be provided with a floor area of not less than 144 sq. ft., and containing not less than 1,132 cub. ft., and one bedroom which must have a floor area of not less than 132 sq. ft. and a cubical capacity of 1,000 cub. ft. It is hoped that considerable good will emanate from the provision which enables the Council to require reasonable alterations in any building, the character of which is objectionable on account of the design, or the undue repetition of the design, or the materials to be used.

Sanitary Provisions.

With regard to the vexed question of combined drains, a clause has been secured which it is hoped will solve the problem. Every house has under this scheme to be provided with a pantry or larder which shall have a window opening into the external air, and in the case of a dwelling-house adapted to the occupation of more than one family, a separate pantry or larder is required for each. It is also provided that every domestic building constructed for use of more than one family shall be provided with separate closet accommodation for each family. To some extent these clauses will prevent a house being let for two families without proper accommodation being provided. Further provisions are desirable, but their inclusion could not be obtained.

Amenities.

Frequently private gardens are in such a state as to be a nuisance to neighbours, under the Order, on the report of the surveyor that the nuisance can be abated, the Council may do what is necessary, in default of the owner doing it, and can recover the cost. In the Ruislip-Northwood urban district, in common with many others, a great deal of untidiness and irregularity occurs in planting and fencing of forecourts of premises, which detracts from the general appearance of the district. To remedy this the Council has power to agree with the owners or surveyors to lay out, plant and fence such forecourts and maintain them at the expense of the Council.

Advertisements are prohibited, except in the factory and shopping areas; but this prohibition does not apply to the exhibition of traders' names or notices on public buildings. Goods for sale or exhibition may be placed in front of premises, but not more than 3 ft. beyond the building line. This is a most useful provision, and will afford much assistance to the Council in keeping the streets from looking untidy and irregular.

Waterproofing a Swimming Bath.

In most towns swimming baths are used for the winter months. This gives an opportunity to repair any leaky places. The bottom of the swimming bath at Leith College, Edinburgh, which leaked very badly, has been re-cemented and lined with glazed bricks, and for making the bath waterproof the powder Pudlo was employed, with excellent results.

LEGAL.

The Claim Against an Architect: Question of County Court Procedure.

Elliott v. the Executrix of late T. Woodbridge Biggs.

December 14-15. King's Bench Division. Before Justices Coleridge and Low.

This was an appeal by the plaintiff from a judgment of his honour Judge Woodfall of the Westminster County Court.

The action in the County Court raised questions as to whether an architect was justified in charging fees for copies of specifications, etc., in a small contract and also a question of alleged professional negligence.

In 1912 the late Mr. Biggs acted as architect for plaintiff for the erection of a greenhouse at Chalk Pit, Maidenhead, first preparing specifications and forms of tender. This contract was satisfactorily carried out. In relation to another contract, Mr. Biggs sued for professional fees, and then the plaintiff discovered that Mr. Biggs had received 3½ guineas from the contractors for extra copies of the specification. He sought to recover this money and damages for alleged professional negligence at the Westminster County Court, but the County Court judge non-suited him, and from this plaintiff appealed.

Mr. G. A. Scott and Mr. Straham appeared for the appellant, and Dr. Herbert Smith represented the respondent.

Mr. Straham reminded the Court that the case before the County Court judge raised two points. One action was by the employer of an architect against the personal representative of an architect, and it was in respect of damages for alleged negligence as architect and also for the recovery of secret commissions alleged to have been received by the architect. The particulars of claim were delivered on June 29, and in respect of the alleged negligence of the architect the appellant claimed £40 as damages suffered by him. The whole case turned on the particulars. The negligence was covered by the statute of William III. and IV., and his client could recover because they sued within six months of the architect's death. The plaintiff was non-suited as regarded the negligence on the ground that the negligence he alleged in the first particulars was negligence in respect of which he could not recover.

Dr. Herbert Smith: I took the objection that no cause of action was shown at all. No action can lie against an architect on certificate unless you allege fraud, and they did not allege fraud. Mr. Scott said he had issued further particulars. The County Court judge, however, refused to expound the cause of action.

Mr. Justice Low observed that the first particulars disclosed no cause of action, and appellant could not by further particulars formulate a fresh cause of action.

Mr. Straham: I submit we can enlarge our cause of action.

Mr. Justice Low: You cannot, indeed.

Mr. Straham further argued that under the County Court rules the County Court judge had discretion to deal with the matter, and should not have given the decision he did.

Dr. Herbert Smith said his client had a perfect answer to the charge as to the alleged secret commission.

Dr. Herbert Smith supported the Westminster County Court's decision.

Mr. Justice Coleridge doubted whether the judge's attention was called to the question of whether or not the further and better particulars which had been furnished disclosed a cause of action. Under

these circumstances he came to the conclusion that the case should be sent back to the County Court judge for him to consider whether or not a cause of action was disclosed in the further and better particulars, and if it was, whether it was competent for him to try to determine such cause of action.

Mr. Justice Low concurred, and the case was accordingly sent back.

THE GOVERNMENT AND HOUSING SCHEMES.

Mr. J. J. Clancy, M.P., has written to the Lord Mayor of Dublin enclosing a letter received by him from Mr. McKenna, Chancellor of the Exchequer, in reference to loans to the Corporation for the erection of houses for the working classes of the city. The following are the letters:—

Kingstown, December 5, 1915.

Dear Lord Mayor,—As you are aware, a deputation of the Dublin City and County Members of Parliament, introduced by Mr. Redmond, waited on the Chancellor of the Exchequer on the 16th of last month with reference to the loans required for housing purposes at the present time within the city. I think I need hardly tell you that the representations made to Mr. McKenna on that occasion lacked nothing in earnestness and contained every fact showing the urgency of the case.

The result is shown in the enclosed letter from the Chancellor. It does not, of course, represent, even nearly, what we asked, but it is something which, as I understand, will take the Corporation out of a serious legal difficulty, and I can assure you and the Corporation, on behalf of my Dublin colleagues and myself, that we will seize any and every opportunity which may present itself in the future of enabling the Corporation to complete all the schemes on which it has embarked.—Yours sincerely,
J. J. CLANCY.

Treasury Chambers, Whitehall, S.W.,
December 1, 1915.

Dear Clancy,—I have looked into the question of the loans required by the Corporation of Dublin for the acquisition of sites for Housing Scheme, which was raised by the deputation of November 16.

I find that the amount provided for loans during the current year is very nearly absorbed by existing commitments, and that the margin is extremely small. If, however, as is stated in your memorandum, the Corporation was legally and irretrievably committed to the purchase of sites before the suspension of loans was decided upon, I agree that they have a strong claim to assistance. As regards the three cases referred to, the Treasury has not as yet had any notification that the approval of the Local Government Board (which, as you know, is an antecedent condition of the grant of any loan) has been obtained, but I gather that it has been obtained as regards the McCaffrey Estate, and the amount required, £3,341, will be found. As regards the Spitalfields case also, for which about £6,000, I understand, is wanted, I think there should be no difficulty if the Local Government Board approve. The other cases must stand over until the Local Government Board have given their decision on them. If their approval is obtained I will see what can be done. But it must be understood that the amount of the loan in each case must be restricted to the sum required to meet the Corporation's legal liabilities, and that no loan can at present be made for demolition or building.—Yours sincerely,

R. McKenna.

NEWS ITEMS.

Change of Address.

Mr. Percy B. Tubbs, F.R.I.B.A., has moved to new offices at 10, Gray's Inn Square, W.C. The telephone number will remain the same, but the Exchange will be altered to Holborn, viz.: Holborn 2141.

Proposed Demolition of a Church.

A Bill of an unusual character will be promoted in Parliament next session, its object being to authorise the sale, pulling down, and removal of the Church of St. John, Hull.

Victoria and Albert Museum.

We are officially informed that the Victoria and Albert Museum will be closed on Christmas Day. From Sunday, December 26, 1915, to Sunday, January 2, 1916, inclusive, the hour for closing will be 5 p.m. instead of 4 p.m. daily; the hours of opening will be as usual.

Alexander Thomson Travelling Studentship.

Owing to the war the trustees have decided again to postpone the competition for this studentship for one year. All students who were eligible at the date originally fixed and have gone on military duty will be allowed to compete when the competition is held.

New Quebec Bridge.

Hundreds of men are now at work at Cap Rouge, some seven miles above Quebec City, building the new Quebec Bridge over the St. Lawrence River. The bridge has been under construction for some years, and it is expected that it will be completely ready in 1917. Some idea of the value of the bridge can be grasped by the cost of the material. The steel alone will cost something like \$11,000,000, and the entire structure when completed will represent \$13,000,000 to \$14,000,000.

New Buildings for Barrow.

Barrow Town Council have approved of the proposals for a number of new buildings, including power station, Cavendish Park, for Messrs. Vickers, cooling tower and new steel chimney at the electricity works; four cottages in Westmorland Street for the executors of the late T. Brown; two lock-up shops in Euryalis Street for Walney Housing Co.; shop and dwelling-houses in Ainslie Street for executors of T. Brown; and two dwelling-houses in West Avenue for Mr. W. Tims.

St. Olave's, Southwark.

The Bishop of Southwark has given his licence for the closing of St. Olave's Parish Church, which stands on the south-eastern end of London Bridge, Southwark. After the war it is proposed to build a small church on the site of the nave of the old building, to accommodate a congregation of 100 of the business people who now come to work or trade in the locality during the day. The tower of the old church is to be retained and restored. In the meantime, services will be held in the Southwark Cathedral Chapter Hall, close by the old church.

Glasgow Institute of Architects.

At the quarterly general meeting of the Glasgow Institute of Architects, held on December 8, at 115, St. Vincent Street, Mr. John Watson, F.R.I.B.A., president, in the chair, it was reported that the council had approached the Civic Survey Committee, London, with a request that Glasgow be included as one of the areas of civic survey at present being carried out by

architects which would be of great service to various undertakings of public utility, and also assist professional men who have lost their work in consequence of the war. A memorial to the Commissioners of H.M. Office of Works, protesting against the demolition or removal of the Tolbooth Steeple, was signed by the president, secretary, and other members of the Institute.

Warneford Memorial.

Mr. F. Lynn-Jenkins, R.B.A., is the sculptor for the memorial to Flight Sub-Lieutenant Warneford, R.N., V.C., which is to be erected over his grave in Brompton Cemetery. The memorial is in the form of a tall pedestal resembling that of "The Victims of June," in the Cemetery of Père Lachaise, Paris. On the upper part is a head of the gallant airman, between reversed torches, and on the lower part a bas-relief panel representing the blowing up of the Zeppelin.

A War Almanac, 1916.

The "Abdulla" Almanac for 1916 (twenty thousand copies of which have been given by the well-known firm of cigarette specialists, Messrs. Abdulla and Co., Ltd., 168, New Bond Street, London, W., for sale for the benefit of the funds of the British Red Cross Society) is a most excellent production. It consists of a large page for each month of the year, bearing a calendar, and embellished with reproductions of pictures of War interest—incidents in the life of our Navy and our Army. Most of the pictures are in colour (those by J. Shaw Crompton, Charles Dixon, Tristram Ellis, A. S. Hartrick, Arthur Hopkins, William Logsdail, and W. J. Wainwright), the remainder being in monochrome (by Frank Dadd, Maurice Greiffenhagen, W. Hatherell, Frank A. Mason, and Frank Reynolds). It is hoped that at least £1,000 will be realised by the sale of this Almanac.

Housing at Birmingham.

At a recent meeting of Birmingham City Council, the Lord Mayor, as Chairman of the Town Planning Committee, presented their report and proposed that the offer of the Dunlop Rubber Company to take an agreed area of the Birches Green Estate (approximately eighty-one acres), on a building lease of ninety-nine years, be accepted. He said the Corporation had now found a very satisfactory use for the Birches Green Estate, which had been the subject of anxious consideration for some time. It was well known there was an urgent necessity for more housing accommodation in the city, and the Dunlop Company were prepared at once to erect 100 houses on the land they proposed to acquire. As opportunity served and the need arose the company would continue to develop the rest of the estate until finally there would be upon it about 760 houses. The resolution was carried and the report approved.

Newcastle Housing Scheme.

It is stated that as March 31, 1916, is the latest date now specified by the Ministry of Munitions for the completion of houses to the cost of which a Government contribution will be made, the Housing Committee of the Newcastle Corporation invited further tenders from those of the builders whose tenders in August last were the lower, in order to ascertain the number of holdings they were respectively willing to complete by March 31 next. The committee recommend to the Council a proposal for the provisional acceptance of four tenders for the erection of 336 holdings, consisting of 74 two-roomed, 144

three-roomed, and 70 four-roomed flats and 48 self-contained houses, at a total capital cost of £67,487. The proposal involves a gross increase of £3,602. It is intended to adjust the rentals to meet a temporary addition to loan charges.

A Plasterwork Contract.

Messrs. John Tanner and Son have been entrusted with the whole of the suspending steel ceilings and the modelling and execution of the fibrous plasterwork at the Wallasey Town Hall, now in course of erection. Messrs. Briggs, Wolstenholme and Thornely are the architects.

Liverpool Cathedral.

The war has necessarily impeded to a very considerable extent the progress of the work being made with the erection of Liverpool Cathedral. The staff of workmen has been very greatly depleted, and the present is not a time, the Cathedral Committee feel, when they ought to make a special appeal to the public for funds. Under the circumstances, therefore, it has been decided to proceed only with that portion of the work which is absolutely necessary, such as the completion of the nave, roof, and walls.

Preventing Building Trade Disputes.

A scheme for preventing disputes in the building trade was decided on at the recent meeting of the National Conciliation Board for the Building Trades held in London. The meeting was attended by representatives of master builders and workmen of all trades from every part of the country. The scheme provides for the establishment of machinery for dealing with demarcation questions which may arise from time to time, and which in the past has led to some bitter and prolonged disputes in the building trades. Local districts and national Boards of joint representatives will be created to decide demarcation problems. Of twenty-two unions affected eighteen have assented.

New Buildings in Aberdeen.

The plans of the following new buildings in Aberdeen have been approved of: Alterations and additions in connection with the office on the west side of Charlotte Street for Messrs. Clark and Chapman, contractors. Alterations in connection with premises, No. 124 Stanley Street, for Northern Property, Land, and Investment Society, Ltd., per Mr. Merianus Lunan, manager. Rifle range and club room on the north side of Broomhill Road, for Aberdeen Miniature Rifle Club, per Mr. William Slora, jun., Bon-Accord Street. Additions, consisting of warehouse and boiler house, to premises on the north side of Frederick Street, occupied by Mr. W. Hepburn, per Mr. John Rust, architect. Alterations in connection with dwelling-house on the south side of Dee Street at its junction with Oldmill Road, for trustees of the late Mr. Thomas Ogilvie, warehouseman, per Mr. W. J. Devlin, architect. Alterations and additions in connection with factory on the south side of Rose Place, for Harrott and Company, Ltd., per Messrs. D. and J. R. McMillan, architects. Timber stores and lavatories, etc., on the south side of Sinclair Road, in connection with the premises of W. Fiddell and Son, Ltd., box manufacturers, per Mr. John Rust, architect. Cook shop at rear of No. 493, George Street, for Mr. Donaldson, fruiterer, per Mr. George Watt, architect. Additions to box and barrel factory, and reconstruction of boiler house at North Esplanade West, for Mr. Charles Lyon, box manufacturer, per Mr. W. E. Gauld, architect.

TRADE AND CRAFT.

"Ideal" Fountain Pens.

Acceptable at any time, a fountain pen is an ideal present at the season of gifts and greetings. It is true that it would be difficult to find an architect, or any other professional man without this well-nigh indispensable implement. We are acquainted with one who has a pen tucked into every waistcoat in his wardrobe. There is the less need for any misgiving on this point. Whether or not the present is already supplied, he will be grateful for an extension of his resources, especially if the new pen happens to embody the remarkable improvements which have been recently introduced in the Waterman's "Ideal" fountain pen, which is now made in three patterns—the Regular, the Safety, and the Lever-action self-filling. In the Safety, a screw cap and the Lever-action for withdrawing the nib feed into the barrel when the pen is in use render leakage absolutely impossible. In the self-filling pen, the cap, which is secured by a screw-thread, is filled with a clip for the pocket, and the pen can be instantly filled simply by inserting the nib in the ink-bottle and lowering a spring lever inserted in the barrel, creating a vacuum up which a full supply of ink immediately rushes. Hence there is no hunting for a glass filler, no jamming of the fingers, no piston-action to the nib, and no reduction of the capacity of the barrel. This is indeed an "ideal" pen for a professional man. For its practical value and for portability, a fountain pen is an ideal present for men (or nurses) serving with the forces, and for this purpose the "safety" type is recommended. From long personal experience with the Waterman "Ideal" fountain pens, we very willingly testify that, in their infallible feed system, and the superb quality of their nibs, they convert what would be otherwise the drudgery of much writing into a real pleasure. One of the "Regular" pattern that we have in constant hard use for about five years is working as well as ever. These are British-owned and British made, the vendor being Mr. L. G. Sloan, "Pen Merchant," Kingsway, London, W.C.

ARCHITECTURAL SOCIETY OF IRELAND.

Rural Dwellings in Ireland.

At the general meeting of the Architectural Society of Ireland was held in the Lecture Hall, South Frederick Place, on December 16, when Mr. T. J. Byrne, A.R.I.B.A., Architect and Surveyor to the South Dublin District Council, delivered a lecture on "Rural Dwellings in Ireland." Mr. Byrne said that at the present time the local district council in Ireland had built cottages for labourers living within their parishes, and the cost of erecting such cottages had been very small on the rates, amounting from the tenth of a penny in the pound in Clifden, County Galway, to one shilling and a quarter in Gortnahoe, Tipperary; £8,950,000 odd had been spent by the Government in this direction; 53,868 cottages had been built, with the result that 325,000 persons had been decently housed for. Nearly 150 years ago the conditions of labourers' dwellings were as bad as they could be, although in the year 1767 people were walking through the streets in the cities and building imposing buildings. The conditions under which the labourers lived at that period

were very bad; anything was considered good enough for them. The lecturer went on to contrast what was thought good enough for the labourer even so recently as the year 1873 with the great strides made up to the present day. Rural authorities had been better financed, and given a much larger scope. In 1906 a great advance was made when money was available at a much lower rate of interest. Four and a half millions was sanctioned then, and at the same time every effort was made to make all the houses much more decent and commodious. Mr. Byrne, who exhibited many interesting drawings, which showed the various stages in the development of labourers' cottages, explained in detail his minimum ideal of what such a dwelling should be. He considered that no cottage should have less than four rooms, and that, in the metropolitan county at least, should have a water service if sewers were inconvenient. He would also be in favour of what were known as "parlour houses" in Belfast, where a little room could be provided that would not be immediately entered from the front door.

WALKER HOUSING SCHEME.

At a special meeting of the Newcastle City Council, held under the chairmanship of the Lord Mayor (Councillor George Lunn), a further report of the Housing Committee and of the Finance Committee relating to the Walker housing scheme was considered.

A contract for the erection of 688 houses on the Walker Estate was originally let to a firm in partnership, but before the contract was put in hand the partnership was dissolved. The Council then assigned the contract to Mr. Samuel F. Davidson for £433,303 15s. 7d., which was an increase of £32,892 9s. 11d. on the contract originally accepted.

It having been represented to the Local Government Board that a portion of this increase would be borne out of Imperial funds, the Ministry of Munitions undertook to contribute £27,568 (being 20 per cent. of the cost of the buildings), on condition that munition workers employed at Messrs. Armstrong, Whitworth and Co., Ltd., were given the preference in the occupancy of the new houses as tenants or lodgers during the war.

Since the acceptance of that tender by the Council, the Ministry of Munitions have pressed for the completion of the houses, to the cost of which they propose to make a grant, by March 31 next, and in order to expedite the work, further tenders have been invited from those builders whose tenders were amongst the lowest in August last.

Having considered the new set of prices, the Housing Committee now recommend the Council to accept four tenders for the erection of 336 holdings, consisting of 74 two-roomed, 114 three-roomed, and 70 four-roomed flats, and 18 self-contained houses, at a total capital cost of £67,487 5s. 10d., the necessary street and sewerage work bringing the cost up to £78,419. Towards this the Government offered a grant of £15,120, leaving a net capital cost to be borne by the Corporation of £63,299.

It was intended to adjust the rentals to meet any temporary increase in the loan charges consequent upon the present state of the money market. The tenders recommended for acceptance, for various portions of the work, were those of Mr. S. F. Davidson, Newcastle; Messrs. R. F. Brown and Co., Blydon; Mr. J. J. Robson, Blyth; and Mr. R. Baxter, of Blyth.

THE WAR-TIME RENT QUESTION.

A meeting convened by the Property Owners' Protection Association to consider the proposed legislation in reference to war rents was held at Winchester House, Old Broad Street, before the text of Mr. Walter Long's Bill was published, the Grand Hall being filled to overflowing by a great body of property owners from all parts of the kingdom.

Sir David Burnett, who presided, said they were all agreed with Mr. Walter Long that the war ought not to be used by any class to secure an advantage at the expense of other classes of the community. Shipowners had almost trebled their freights—which was another term for rents—and the consequence was a rise in the price of food for the working classes far beyond any proposed increase of rent. This argument of the property owners would be absolutely unanswerable in normal times. But we were not living in normal times. To raise rents at this moment would be inopportune and unpatriotic. He believed there was comparatively very little rent-raising at present, and it might very well be left to right itself.

Mr. Edwin Evans, L.C.C., president of the Property Owners' Protection Association, said that there was really no occasion, so far as London was concerned, for any legislation at all. His advice to the landlord and the mortgagee was to be content with the terms in operation on August 4, 1914.

The following resolution was unanimously carried: "That this meeting, representing house property interests of all kinds, confirms the attitude already publicly expressed by the Property Owners' Protection Association, Ltd., which affirmed its emphatic disapproval of the action of certain landlords in raising the rents of tenants, and mortgagees in increasing the rates of mortgage interest or calling in such mortgages during war time." The resolution added that the meeting was strongly of opinion that such practices were not by any means general, and that, as a rule, both landlords and mortgagees were quite prepared, even at considerable sacrifice to themselves, to bear the additional burdens caused by the war. The resolution concluded with the pledge that if the Government issued a general pronouncement against such increases, all concerned would give such loyal and patriotic support as would render any legislation unnecessary. The Government, however, as we have duly recorded, prefer to proceed with their Bill.

OBITUARY.

Mr. John Ely, F.R.I.B.A.

Mr. John Ely, of Manchester, who has died at the age of sixty-seven, became a Fellow of the Institute in 1888, and was a member of Council. He was President of the Manchester Society of Architects in 1897-8. He had been successful in several important competitions—notably that for the extension of the Salford Royal Hospital, and for the new buildings for the Manchester Southern Hospital.

Mr. Samuel Elliott.

Mr. Samuel Elliott, who died on December 13, at the age of seventy-seven, was founder of the firm of Messrs. Samuel Elliott and Sons (Reading), Ltd. He had carried out many contracts under such eminent architects as Sir G. Gilbert Scott, Mr. G. E. Street, Mr. John F. Bentley, Mr. Alfred Waterhouse, and Mr. Norman Shaw.

PUBLISHER'S ANNOUNCEMENT.

THE question of the cost of Advertising is governed entirely by the circulation of a publication. The prices for small Advertisements enumerated below are framed upon the lowest possible basis in order to allow the use of the columns of the Journal for "Wants," &c., at a figure well within the reach of everyone.

Advertisers are purchasing the circulation of a paper in buying space for their announcements, and we are able to announce that "The Weekly Nett Sale of The Architects' and Builders' Journal is larger than that of any other Architectural Journal."

Appointments Wanted.

4 lines (about 28 words) 1s. 6d.; 3 insertions, 3s.

ADVERTISER seeks engagement in builder's office; well up in all building works and office routine; over military age; active and reliable; can give first-class references.—James, 221, Brockley Road, S.E.

ARCHITECT and Surveyor's Assistant, disengaged; 26 years' practical experience; first-class design; supervision; quantities.—D., 150, Effra Road, Wimbledon, S.W. 715

ARCHITECTS and Surveyors.—Junior Assistant seeks re-engagement; ineligible; domestic and business planning details, etc.; artistic perspectives; measuring existing buildings; excellent testimonials; moderate salary.—T., 4, Overton Villas, Maumbury Way, Dorchester. 709

BUILDER'S Contractor's, Decorator's Clerk and Assistant; town or country; well up in accounts for customers; jobbing and daywork; prime cost, wages, etc.; good references.—J. E., 82, Park-street, Camden Town, N.W.

BUILDER'S General Foreman; thoroughly practical and reliable; just finished large munition works; twenty years' experience; first-class references; new or alterations; any size job; carpenter and joiner.—W. J., 97, Larkhall Lane, Clapham.

BUILDER'S Assistant whose knowledge of detail, accounting, and office work is extensive and exact, and appreciated by employers with whom he has had business relations, desires immediate engagement.—John M. Fife, 19, Campden Street Kensington, W. 707

BUILDER'S Clerk, good references, wishes situation; book-keeper, set of books, prime costs, joinery works; several years' experience. Apply M., 1, Church Lane Willesden, N.W.

EXPERIENCED Architectural Assistant (beyond war service age) desires an engagement in London.—Address T. C. Y., 56, Addison Mansions, Blythe Road, Kensington, W. 703

FOREMAN or Overseer seeks berth; thoroughly competent; above military age; life experience in all branches of the building trades; good manager of men; free at once.—Box 692.

GENERAL Foreman disengaged; thoroughly reliable; large experience in building trade; new and alterations; carpenter; good references.—J. P., 96, Nimrod Road, Streatham.

GENERAL Foreman seeks re-engagement; town or country; new or alterations; carpenter by trade; just finished hutments; good references.—C. H., 6, Marshall's Road, Sutton, Surrey.

LONDON Estate Surveyor (43) seeks appointment or temporary work on plans, surveys, dilapidations, valuations, assessments, sanitary surveys and reports, and general management of house property.—C., 24, Alexandra Road, Hemel Hempstead.

PAPERHANGING wanted (piecework); high reliefs, Anaglyptas leathers, soirettes, embossed papers, Tekko, Emdeca, canvas, and all latest productions; panelling and special designs; town or country.—Logan, 185, Loughborough Road, Brixton, S.W.

POSITION as Agent in charge of works or similar responsible post desired by Class 40 man; any part of country; just completed large camp and other Government erections; undeniable references from leading London firms; commence immediately.—Box 705.

THE Association of Builders' Foremen and Clerk of Works, 56, Old Bailey, E.C.—Experienced Foremen and Clerks of Works can be obtained by applying to the Secretary, Mr. J. W. Sawyer, 214, Clapham Road, S.W. Competent foremen and clerks of works are invited to join this Association.

WANTED, Situation as General Foreman (carpenter); thoroughly experienced in all branches.—J. T., 43, Amity Grove, Wimbledon

Appointments Vacant. 6d. per line.

ARCHITECTS' WAR COMMITTEE.

The Professional Employment Committee have under consideration certain schemes of work with a view to affording small temporary employment to architects who are without work in consequence of the war. Applications can only be considered from British architects dependent on their profession for a living, whose present difficulties are directly due to the war, and who are not eligible for military service. Applications should, in the first instance, be made to the Hon. Secretary of the Professional Employment Committee of the Architects' War Committee, 28, Bedford Square, W.C.

PLUMBER.—Wanted thoroughly efficient all-round Plumber for general work in France.—Apply immediately, Thompsons, Ltd., Contract Department, 163-170, Tottenham Court Road, W.

MARBLE Mason's Foreman (Under).—Farmer and Brindley, Ltd., 63, Westminster Bridge, London, S.E.

Miscellaneous. 6d. per line.

SECOND-HAND Optical Mart

For the Purchase and Sale of
LEVELS, THEODOLITES, DRAWING INSTRS.—Clarkson's, 338, High Holborn, London, W.C. (Opposite Gray's Inn Road).

TO ARCHITECTS COMPETING. SCHEMES & ESTIMATES FOR ENGINEERING WORK.

(Lighting, Heating, Ventilation, and Sanitation), and Architectural Metal Work, supplied free of charge of **STRODE & Co., Ltd.**, 48, Osnaburgh Street, London, N.W., and 18, Easy Row, Birmingham.

BOOKS.—Books on Building Trades, Engineering Educational, Literary, Technical, and all other subjects; second-hand at half prices; new at 25 per cent. discount; catalogue free; state wants; books sent on approval; books bought; best prices given.—W. and G. Foyle, 121-123, Charing Cross Road, London, W.C.

ARCHITECTURAL and Building Books for sale cheap; new condition; also surveyor's 3-screw level, with stand.—Apply "Yorkshire," Box 718.

OLD-ESTABLISHED builder and decorator's business, S.W. district, with extensive premises, offices, stabling, yard, stores, etc. Present turnover about £1,500, normal times £3,000. Price £400 for goodwill, stock, and plant. Rent £75, including six-roomed house. The freehold of the above would be sold with three adjoining shops, all well let, producing £181 per annum. Price £2,300.—Phillips and Son, Ltd., 2-3, Station Road, Balham.

TYPEWRITING; architect's and builders' specifications promptly and carefully copied.—"Copyist," 11, Sillwood Road, Brighton. 711

POLING boards, selected length and thicknesses, best quality and full measure, also scaffold boards, putlogs, scantlings, deals, battens and boards; lowest wharf prices.—C. H. Glover and Co., Ltd., Importers, Hatcham Saw Mills, Old Kent Road, S.E.

Contracts Open. 9d. per line.

URBAN DISTRICT COUNCIL OF DARTFORD.

To Builders and Contractors.
The Council invite Tenders for the Erection complete of 30 Houses in Dartford, in accordance with plans and specification which may be seen upon personal application to the Surveyor at the Council Offices, Dartford.

Tenders, in envelope, endorsed "Tender for Houses," must be delivered to me, the undersigned, not later than Thursday, December 30.

The Council do not bind themselves to accept the lowest or any tender.

W. KAY,

Clerk to the Council.

Council Offices, Dartford.

December 13, 1915.

Contracts Open—Continued.

BARKING TOWN URBAN DISTRICT COUNCIL EXTENSIONS TO ELECTRICITY GENERATING STATION.

To Contractors.

The above Council invite Tenders for the provision and erection of a steel-framed building with Corrugated Iron, together with Brick-Engine Well and appurtenant Works.

Plans and specification may be seen and copies of contract and forms of tender obtained upon application to Mr. R. A. Lay, Assoc. M. Inst. Acting Surveyor to the Council, Public Offices, Barking, on and after December 20, 1915.

The contractor whose tender is accepted will be required to enter into a contract under seal and to provide an approved surety for the due performance of the contract, to pay the trade union rate of wages in force in the district, to observe the recognised hours of labour, and to employ as far as possible workmen residing in the district of Barking Town.

Tenders, enclosed in envelopes provided for purpose, may be delivered at the Public Offices, Barking, to the Chairman of the Electricity Tramways Committee, at 7.45 p.m. on Friday, January 7, 1916, or be sent by post or delivered to the undersigned so as to reach him before the date time mentioned.

The Council do not bind themselves to accept the lowest or any tender.

By order,

E. A. PRATT,

Acting Clerk to the Council.

Public Offices, Barking.

December 13, 1915.

Educational Announcements.

6d. per line.

COURSES OF PREPARATION,

In Class, by Correspondence, or in Office for the Examinations of
THE SURVEYORS' INSTITUTION,
THE ROYAL INST. OF BRIT. ARCHITECTS,
and the **SOCIETY OF ARCHITECTS.**
On a complete, practical, and highly Successful Method, by

Mr. JAMES NEILL, F.S.I., Etc.,
Architect and Surveyor, Standard Buildings, Leeds. (Tel. 192.)

Note.—Before deciding upon any system of tuition, an intending candidate is invited to communicate with Mr. Neill (who, in addition to many other qualifications, is a Medal Honoursman, Prizeman, and Head of the Department of Building at the Leeds Technical School).

The 15 months' S.I. Courses commenced in January. Past successes include:—Penfold Silver Medal, Building Prize, D. Prize, and the Irish Special Prize.

THE ALEXANDER THOMSON TRAVELLING STUDENTSHIP.

Owing to the War the Trustees have decided to postpone the Competition for this Studentship one year. All Students who were eligible at the originally fixed, and have gone on Military Service, will be allowed to compete when the Competition is held.—C. J. Maclean, Secretary, 115, St. Vincent Street, Glasgow. December 6, 1915.

R.I.B.A. EXAMINATIONS.

Special personal system of preparation by correspondence or private tuition. Bond and Bond (A. G. Bond, B.A. Oxon, A.R.I.B.A.), 96, Grosvenor Road, S.W. Tel. 7036 Victoria.

THE QUANTITY SURVEYORS' ASSOCIATION (Incorporated).

A Preliminary Examination for the admission of Students and Final Examination for the intending to apply for Associateship or Membership will be held in April, 1916.

A syllabus of the Examinations and a form of application for permission to sit may be obtained from the Honorary Secretary, Cambridge, Westminster, S.W.

These forms must be submitted for approval by the Council on or before December 31.

THE ARCHITECTS' & BUILDERS' JOURNAL.

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BASE OF A CANDELABRUM.

(From Firanesi.)

THE ARCHITECTS' & BUILDERS' JOURNAL.

DECEMBER 29, 1915.

TOTHILL STREET, WESTMINSTER.

VOLUME 42. No. 1095.

ARCHITECTURAL AND BUILDING EVENTS OF 1915

NATURALLY enough, the year 1915 has not been prolific of architectural interest, all available energy having been as far as possible drawn, or driven, or coaxed into the channels of national service. This is very right and proper; and if, here and there, one detects unmistakable evidences of *trop de zèle*, or fussy futility, these are faults that, being inevitable, can be the more easily condoned. Misguided energy, though sometimes extremely mischievous, is, on the whole, preferable to indolence and apathy. Fully aware that, in times like these, it is a patriotic duty to assist the Government in every possible way, rather than to harass it with complaints that might be proper in normal times, we have studiously refrained from anything in the nature of severe criticism, even of actions that have seemed to us to be open to strong objection. Nevertheless, recognising that temperately conducted opposition, devoid of all political taint, and as far as possible free from merely sectional interest, may occasionally be helpful rather than obstructive, we have in that sense ventured, from time to time, to express disapproval of steps that, looked at from our point of view, seem to have been somewhat untoward. For example, we have felt it impossible to agree entirely with the policy of what we consider to be undue discouragement of building enterprise—a policy that, however wise it may be in the immediate emergency, cannot be for the ultimate good of the country. But when the craze for economy has been pushed to ridiculous extremes by certain municipal authorities, we have felt bound to enter an energetic protest against such grotesque and mischievous misinterpretation of the spirit and intention of Government advice. In the same way we have felt compelled, as occasion arose, to offer a little faithful but friendly criticism to the R.I.B.A., and we feel sure that in neither case has our object been misinterpreted. Concerning the R.I.B.A., we have felt, and we still feel, that, preserving amidst the excitements of war-time its traditional regard for the modesty and dignity that normally become it so well, it has been slow to impress itself upon the Government as a body capable of rendering most effective service in the crisis. It has done much, but might have done very much more if it had been less backward and more insistent in asserting itself; but we hope and believe that it is making a very good recovery. If, from the outset, it had manifested with regard to other matters the energy it has recently devoted to the question of income-tax, not only would the profession have more reason for gratitude, but the national interests would have been more effectively served.

Pre-war Contracts.

That once-familiar phrase "countervailing duties" is one that seems applicable to Government and muni-

cipal action during war-time. When emergency operations become necessary, and a time-honoured normal course is interrupted, either by direct interference or as a consequence of conditions consequent upon the war, it is wise as well as fair to do all that is possible to provide against the hardships that may arise unless these adverse operations are counteracted. For example, there is the case of pre-war contracts which Mr. Howell J. Williams recently furnished as a forcible example. It is certainly a great hardship that Mr. Williams, or any other person similarly situated, should be compelled to fulfil, to his own loss, a contract by which he would have benefited but for the unanticipated outbreak of the war; and it is surely not too much to expect the Government to provide some measure of relief in such cases.

This matter was put very clearly and temperately in the annual report of the Sheffield Society of Architects in which it is stated that the gradual rise in the price of certain materials, and the difficulty of obtaining supplies in sufficient quantities or without great delay are, perhaps, the most serious matters with which contractors have to contend at the present time, and which prevent them from tendering for new work with a degree of satisfaction. The representatives of the Sheffield Master Builders' Association have taken a reasonable attitude so far as their position is concerned, and have frankly admitted that, as regards contracts entered into before the War are affected, the contractors have no legal claim for extra payment to cover the additional cost of materials. They have, however, that architects will bring the circumstances to the notice of their clients, and urge them to consider the position of the contractors as favourably as possible. At the same time, they realise that the building owners have been seriously affected by the War and that they cannot be expected to meet the contractors at all points. It is a matter, therefore, for mutual forbearance as well as for legislative relief. Further reference is made to this matter below, in summarising the transactions of certain other representative organisations.

Effects of the War on the Building Industry

Builders have had to face a most trying situation. Building has been greatly hampered by the scarcity and dearness of labour and materials. Such work as could be spared from Government service, whether with the forces or in munition factories, or, again, for building work required by the War Office, has demanded a war bonus or an increase in wages, and in most cases these demands could not be resisted. In these circumstances, it is inexplicable that corporations and private owners should have shown a general disposition to hold contractors to terms agreed upon before the war, but unfortunately this unpleasant fact has to be recorded. Attention was called to t

culties by Mr. Touche in the House of Commons, the official reply was somewhat evasive.

How We Stand.

As Mr. A. G. White remarks in a singularly able review of the situation, which he contributes to the coming issue of "Specification," the immediate future of the building trade has been one of depression and lack of confidence on the part of investors and the counter attractions offered by other kinds of investment. It is not necessary to dwell on the first-named cause; its origin is fairly well understood. It needs to be noted that it still persists and is likely to do so unless Government action be taken calculated to restore confidence in land and houses as subjects for investment.

As regards the counter attractions offered by other kinds of investment, Mr. White continues, most of them arise out of the prosperity of various industries, and are therefore transitory. The long period of boom trade experienced generally by this country prior to the outbreak of the war has made those counter attractions more numerous and more prolonged than usual, but there were signs that their influence was coming to an end, and that a flow of investing capital was about to pass into the building trade, when the declaration of war on so great a scale put a stop to all capital investment that could or can be avoided. Fortunately war has done more than stop investment, it has changed it in one of its fundamentals, namely, the rate of interest.

Building as an Investment.

There is a rough comparison inevitably drawn by an investor when considering the putting out of money; he compares the safety, the readiness of realisation, and the rate of interest of the particular investment which is occupying his mind, with some standard investment which offers these characteristics in a fairly stable form. It is obvious that the likeliest standard will be Government stocks, as offering the security coupled with ready realisability; and the rate of interest may be considered a measure of those facilities. If an investor considers the next best thing, viz., land or houses, he finds it less safe than Government security and less quickly realisable, therefore he will demand and get a relatively higher rate of interest.

As a result of the enormous borrowings of Governments just now, the interest on such has increased, in this country, to $4\frac{1}{2}$ per cent.; it follows that in future capital for investment in land and houses will demand much more than $4\frac{1}{2}$ per cent. as it thinks them inferior to Government stocks in security and realisability. The difference will probably be represented by at least $\frac{1}{2}$ per cent. when plenty of capital is available, but until that is so the difference may be more.

Here, then, we have a factor arising out of past and present which cannot fail to exert a marked influence on the future of the building trade. Before the war it was well realised that house building for the working classes was required on a great scale, and Government had promised to spend a large sum for that purpose. Nothing has been done nor can be done in that way until the war is over, and even then the aftermath of heavy taxation which it will leave behind it may deter Government from carrying out a large building programme, especially as the whole financial basis will require recasting.

Retrospect and Forecast.

Similar remarks apply to the many town planning and improvement schemes under consideration in the early part of 1914. On the other hand, in spite of the death-roll due to war, there will be a growth of population which will render an increase of housing accommodation more necessary than ever. After a war there is usually a rise in the birth-rate which will

accentuate that. Also a large part of our population has been living an open-air life, and will on its return feel intolerant of the over-crowded and ill-ventilated accommodation common to many parts of our great cities. There is likely, therefore, to be a great demand for better housing after the war, but the difficulty will be to satisfy it at suitable prices. If there ensues a period of great prosperity for the working classes, enabling them to earn high wages and to face with equanimity a high cost of living, then an advance of rents may take place which will ease the whole difficulty by yielding an interest on investments in houses and land which will attract the necessary capital, despite other attractions.

R.I.B.A. Transactions.

On June 1 the Royal Gold Medal was presented. Mr. Charles Darling, the first Colonial architect to whom it has been awarded, was unfortunately not able to be present to receive it in person. In his behalf, Sir George Perley, the High Commissioner for Canada, took charge of the medal; and as the Hon. W. P. Schreiner, High Commissioner for South Africa, was also present, the speech-making took quite an Imperial tone. There can be but little doubt that in future awards of the medal the claims of Empire will receive closer attention; nor will Russia be ignored. As Mr. A. E. Richardson has shown in a remarkably interesting article in the "Architectural Review," Russian architects have done, and are doing (in spite of the war), excellent and distinctive work that, like their literature and their sculpture, painting, and music, stamps them as an eminently artistic people.

The R.I.B.A. annual elections, in June, produced a much smaller poll than usual, mainly because so many architects were away on war service, but partly, no doubt, owing to the suspension of contentious issues, and the general eclipse of minor occasions of excitement.

At the opening general meeting, on November 1, Mr. Ernest Newton's presidential address was almost entirely devoted to a review of the conditions arising from the war. He detailed the activities of the Institute in providing employment (mainly by means of Civic surveys and of a Professional Employment Committee) for architects in need of it; and in succouring those who were in actual distress. He mentioned that the Architectural Association War Service Bureau had continued unabated its recruiting activities, and that at the date of his address some 1,800 members of the architectural profession were serving with the forces. Many of them, alas! have made the great sacrifice.

An amendment of the regulations of architectural competitions, passed on November 27, provides for the stricter enforcement of prohibitions against entering competitions in which the conditions are considered by the Council to be unsatisfactory.

The reading of papers, and the evening meetings, have been abandoned; but the afternoon meetings have met with so little success that at one of them it was impossible to form a quorum.

Many other matters, including a revised schedule of architectural fees, have engaged the attention of the Institute during the year; but, very wisely, the results of such labours have been held in suspense, to prevent all risk of dissension at a time when unanimity is essential.

Competitive examinations continue in suspense, but there has been a considerable revision of examination schemes. In this connection it is worth while to recall that in July, for the first time in England, the degree of Bachelor in Architecture was conferred by Liverpool University. There were two recipients—Mr. R. S. Dixon and Mr. F. O. Lawrence. It seems probable that the example set by the vigorous School of

Architecture at Liverpool will in the near future be followed by some system which the R.I.B.A. may devise of promoting a closer relationship between architecture and the universities.

Architectural Association.

Hard hit by the war, the A.A. has been compelled to contract its educational activities, but has shown tremendous and splendid energy in the matter of recruiting. Mr. Alan Potter, as hon. recruiting officer, has been justly dubbed "the A.A. Kitchener," and Mr. F. R. Yerbury has strenuously and indefatigably supported him in the good work. A Red Cross Voluntary Aid Detachment has been formed, its members being trained to render first aid, and to act as stretcher-bearers, orderlies in hospitals, etc.

To the immense services rendered to the State by the A.A. War Service Bureau Mr. Ernest Newton's R.I.B.A. address paid due tribute. At the annual meeting of the A.A., on November 8, Mr. H. Austen Hall, president, added a reference to the fine work that is being done by the committee under Mrs. Maurice Webb in providing comforts for architects and builders serving with the forces.

Society of Architects.

Mr. E. C. P. Monson was elected president, and Mr. E. J. Partridge hon. secretary. Like the R.I.B.A. and the A.A., the society suspended its evening meetings, but routine business was to be transacted at monthly meetings to be held at 6 p.m.

The Registration movement is still kept vigorously alive, although for the moment it is not being promoted aggressively; and the society is understood to have had in preparation a form of contract that, we fear, may represent so much wasted labour. What is wanted is not a multiplicity of forms, but a form representing a consensus of the various parties concerned.

The Society of Architects has strongly supported the various ameliorating and recruiting movements connected with the profession.

National Federation of Building Trades Employers of Great Britain and Ireland.

At the annual meeting, held in London on January 27, the President of the Western Federation of Belgian Building Trades Employers gave a clear statement of the needs and expectations of Belgium with regard to reconstruction, urging British manufacturers and merchants to study the requirements of the Belgians, and to endeavour to offer the most favoured market and the best financial terms. At this meeting the desirability of revising the agreed form of contract, and of issuing a new form for sub-contractors, were among the chief subjects of discussion, which dealt also with the vexed question of municipal trading.

At the half-yearly general meeting, which was held at Leeds on July 28, the report presented referred to the difficulties in which builders had been placed by the war; to the necessity for a revised form of contract; to the Belgian Builders' Fund, which then stood at more than £1,000; and to the departmental inquiry into lead-poisoning. Discussion turned largely on the apprenticeship question; the matter of war bonuses to workmen, with a resolution to the effect that while conditions did not justify any general payment of bonus, separate applications for increase should be dealt with on their merits, the conditions as to notice of alteration of rules being relaxed for that purpose; a resolution admitting builders' labourers to the Conciliation Boards was passed, and it was also resolved to submit demarcation disputes to conciliation.

At a meeting of the Administrative Committee held in London on November 16, it was reported that the Belgian Minister for Public Works had conveyed his thanks to the Federation for the good work being done by the Belgian Builders' Relief Fund; that the

Federation would be allowed to tender evidence (probably after the war is over) before the Departmental Committee of the Local Government Board on the subject of the building by-laws and the Court of Appeal; a witness was appointed to appear before the Departmental Committee on the subject of damage to roads by heavy motors; representations were to be made as to contractors for Government works offering wages in excess of the standard rates; the Chancellor of the Exchequer was to be approached on the incidence on contractors of excess war profits taxation; and representations were to be made with reference to a complaint that wall-paper manufacturers and merchants were proposing to reduce trade discounts.

London Master Builders' Association.

This Association has been, in conjunction with the Institute of Builders, enquiring into the subject of the forms of contract imposed by local authorities within the metropolitan area, and has expressed itself as being in thorough accord with the National Federation in its endeavours to secure the adoption of an equitable form by all public authorities.

At meetings held in October, it was reported that correspondence had taken place with the Local Government Board with respect to pre-war contracts, and that the L.G.B. "were not prepared to say" that where, owing to unforeseen conditions attributable to the war, the contractor is unable to continue to supply goods, etc., at the contract prices, the authority, instead of enforcing their legal rights, might not arrange with the contractor to continue to supply on the understanding that the actual amounts will be settled at a subsequent date either by agreement or arbitration. The Board declared that it had no power to intervene, and it declined to receive a deputation on the subject from the Association.

A pamphlet issued jointly by the Surveyors' Institution and the Quantity Surveyors' Association to regulate the measurement of plasterers' work was prepared without the assistance of the Association or of the London Master Plasterers' Association, who are consequently not parties to these regulations. The annual dinner of the Association was abandoned.

The Association, approached for an increase of an hour for all trades to compensate for the increased cost of living, were unable to recommend such increase but advised an extension of working hours.

The Association has a long "roll of honour," and sent out many parcels of gifts to its many members who are on active service.

War Memorials.

A remarkable series of war memorials, of all periods and countries, has been collected for the "Architectural Review," in which it is still appearing. In the matter of memorials, a deputation of the Civic Association, introduced by Mr. Edward Warne, F.R.I.B.A., waited upon the Lord Mayor to urge the great importance of such memorials being excellent in design and workmanship; and the Lord Mayor gave practical expression to his sympathy by consenting to preside at a public meeting to be held at the Mansion House on January 28 next.

Town Planning and the Rebuilding of Belgium.

On February 11, a conference, organised by the International Town Planning Council, on the rebuilding of Belgium, was held under the presidency of M. Helleputte, the Belgian Minister of Works, and was largely attended by Belgian architects, engineers, and contractors.

In March it was announced that Viscount Brydone, O.M., had consented to become president of the Belgium Town Planning Committee. In April the Belgian Exhibition was opened at University College, Gower Street.

The Executive of the International Garden City and Town Planning Association are taking a lead

part in the movement for the rebuilding of Belgium, and the business aspects of the scheme that is taking shape are being watched with close and sympathetic interest by the National Federation of Building Trades Employers.

The Belgian Town-planning Committee arranged a series of lectures, to be delivered at University College, London, by Professors Patrick Abercrombie and S. D. Adshead, Colonel R. E. Crompton, Mr. Raymond Unwin, and other authorities on the subject.

Competitions.

Among the more important of the few competitions decided during the year were the following:—

Stepney Municipal Buildings: 1, Messrs. Briggs, Wolstenholme, and Thornley; 2, Messrs. Granger and Leathart; 3, Messrs. Ambrose Poynter and George Wenyon; 4, Messrs. T. S. Darbyshire and F. A. Collard.

Tuberculosis Hospital, Southend: Mr. Percy Brockbank.

Plymouth Co-operative Society's premises: 1, Messrs. Halliday and Paterson and C. G. Agate; 2, Mr. H. R. Gardner; 3, Mr. H. S. East; Messrs. F. Bethell and C. M. Swannell.

Bromborough Port Cottages: Group of five: Halliday and Paterson and C. G. Agate; Messrs. Cleland and Hayward; Mr. W. Fullerton; Mr. T. H. Bromhead. Group of seven: Messrs. Cleland and Hayward, Halliday and Paterson and C. G. Agate; Mr. E. G. Theakston. Three, with shops: Messrs. Morter and Dobie. Seven, with shop: Mr. E. G. Theakston.

St. Helens Police Building and Fire Station: 1, Mr. J. Sunlight; 2, Messrs. Cleland and Hayward; 3, Messrs. C. T. Adshead and P. H. Topham.

Burnley Victoria Hospital: 1, Mr. William A. Pite; 2, Messrs. Hitchon and Pickup; 3, Messrs. Taylor and Simister; 4, Mr. T. H. Vowles.

Branch Libraries, Nottingham: Highbury Road—1, Messrs. Lawrence, Bright, and Thoms; 2, Mr. W. H. Higginbottom; Nottingham Road—1 and 2, Messrs. Sutton and Son. Bruce Grove—1, Mr. F. W. C. Gregory; 2, Messrs. John Howitt and Son. School at Vale Road, Tottenham: 1, Mr. A. Jessop Hardwick; 2, Mr. Arnold Mitchell; 3, Messrs. Spalding and Myers and Mr. Ernest G. Theakston.

Masonic Hall, Manchester: 1, Mr. J. Broadbent; 2, Messrs. Brameld and Smith; 3, Mr. T. A. Fitton.

Wyggeston Grammar School for Boys, Leicester: 1, Mr. H. Howard Thomson; 2, Messrs. G. L. Brown and P. C. Jones; 3, Messrs. Stockdale Harrison and Sons.

Workmen's Dwellings, Rathbone Street area, Liverpool: 1, Messrs. Biram and Fletcher; 2, Mr. F. E. D. Badger; 3, Messrs. Halliday and Paterson and Mr. C. Gustave Agate.

Papers and Addresses.

Among the more important papers read or addresses delivered during the year were the following; of which the list will be valuable for reference:

A.A., January 5, Professor W. R. Lethaby on "Modern German Architecture and What We May Learn From It."

Concrete Institute, January 7, Mr. Henry J. Tingle, M.Inst.C.E., on "The Application of Concrete in Modern Sanitation."

R.I.B.A., January 18, Mr. F. C. Eden, M.A., on "Varallo and Its Imitations."

R.I.B.A., February 2, Mr. A. E. Richardson on "The Architectural Spirit of the Age."

R.I.B.A., February 15, Mr. A. N. Prentice on "Architectural Sculpture in Spain."

Concrete Institute, February 18, Mr. T. A. Watson, M.Inst. C.E., on "Economy of and in Reinforced Concrete."

Concrete Institute, March 4, Mr. R. Graham Keevil, A.M.I.Mech. E., on "Some Notes on Wind Pressure."

R.I.B.A., March 19, Mr. James Williams on "English Church Monuments."

R.I.B.A., March 30, Mr. Segar Owen on "The Design and Construction of Buildings for Industrial Purposes."

Nottingham and Derby Architectural Society, October 26, Mr. Harry Gill, M.S.A., on "Logic in Architecture."

A.A., November 8, Dr. A. E. Shipley on "The Military Hospital at Cambridge."

Royal Society of Medicine, November 10, Mr. A. Saxon Snell, F.R.I.B.A., on "Military Emergency Hospital Construction."

London University, November 11, Professor F. M. Simpson, F.R.I.B.A., on "St. Sophia and the Mosques of Constantinople and Brusa."

R.I.B.A., November 17, Mr. H. V. Lanchester on "The Evolution of the Architectural Competition."

Sanitary Institute, November 17, Mr. W. E. Riley's Chadwick lecture on "Some Conclusions on Housing Our Workers."

Concrete Institute, November 17, Presidential address by Mr. Henry Adams, M.Inst. C.E., etc., who referred to the Institute's influence on the new regulations of the L.C.C. Their completion, he said, "has been for us the great event of the year."

Northern Architectural Association, November 17, Mr. R. Burns Dick, presidential address on the effects of the war and the problems it creates for architects.

Birmingham Architectural Association, November 19, Mr. Arthur T. Bolton on "Architecture in Birmingham and Neighbourhood in the Last Half of the Eighteenth Century."

Edinburgh Architectural Association, November 26, Professor C. Gourlay, B.Sc., A.R.I.B.A., on "Santa Sophia, Constantinople."

Official Publications.

The first report of the Departmental Committee on Lighting in Factories and Workshops was issued in the autumn, and affords a valuable survey of the subject. The fifth annual report of the Road Board, ordered to be printed on July 29, 1915, was, like so many other current official publications, largely a counsel of economy, cautioning local authorities to confine their expenditure to the repair of main-travelled roads, especially such as are much in use for war traffic. After nearly four years of inquiry and deliberation, the Departmental Committee on White Lead issued its report, in which it recommended the legislative prohibition of the use of white-lead in paints. Naturally, the white-lead manufacturers took up the subject with considerable vigour, and it is doubtful whether so drastic a proposal will take effect. In May, Mr. William Woodward drew attention to the fact that the Board of Agriculture and Fisheries had published, in connection with the report of its Advisory Committee on labourers' dwellings, full-size working drawings for a shilling, a specification for a penny, and fifty-three pages of designs, "the whole so detailed that the employment of an architect would not be necessary." Mr. Woodward entered an emphatic protest, and it will be remembered that our editorial comments did ample justice to the occasion. A formal protest on much the same lines was lodged by the Society of Architects, and it is understood that the R.I.B.A. made representations on the matter. The published official defence of the Board's action was feeble and flimsy in the extreme. New regulations for buildings wholly or partly constructed of reinforced concrete, drafted by the London County Council under their General Powers Act, 1909, were approved by the Local Government Board, and several pages of useful formulæ extracted from the new regulations will appear in the forthcoming issue of "Specification."

SOME NOTEWORTHY BUILDINGS OF THE YEAR.

NEW BUILDINGS ON KINGSWAY, LONDON.

THE development of Kingsway—the great new thoroughfare extending from Holborn to the Strand—has made remarkable progress, and the street is now practically built up from end to end. It is the largest and the most successful scheme of street improvement which has been carried out in London since the formation of Regent Street in 1820, but from the architectural point of view Kingsway cannot be regarded as rising to the height of its opportunity; there is especially a lack of cohesion in the design of its buildings, a defect due primarily to insufficient grasp of the problem by the County Council as the controlling authority.

The new thoroughfare itself was completed in 1905, and was formally opened by King Edward. The Council had previously considered the very important matter of the design of the buildings which were to be erected on the new street. A limited competition was held among eight architects: Sir Ernest George, Mr. Reginald Blomfield, Mr. Mervyn Macartney, Mr. Leonard Stokes, Mr. Henry T. Hare, the late Mr. Mountford,

the late Mr. Flockhart, and the late Mr. Ernest Runtz. These architects were invited to submit designs for a series of buildings to be erected on Aldwych and the island site enclosed between this curved arm of the new street and the Strand. The designs were assessed by Mr. Norman Shaw and Mr. W. E. Riley, the Superintending Architect to the Council, and the first place was awarded to the scheme of Mr. Hare. The competition, however, was bound to prove ineffective, for the simple reason that it was an affair of imaginary façades. The Council were not in a position to say what sort of buildings would be erected, and therefore there could be no question of evolving plans that could be carried out as a commercial investment. For the island site some large public building, a new County Hall, or a building for the Colonies, was thought of at the time; but, as a matter of fact, things have developed quite otherwise, the much-talked-of County Hall being now in course of erection next Westminster Bridge, and the central part of the island site remaining to this day a waste piece of



PUBLIC TRUSTEE BUILDING, KINGSWAY, LONDON.

A. J. PITCHER, H.M. OFFICE OF WORKS, ARCHITECT.

ground. In view of the manner in which Kingsway has actually been developed, the Aldwych competition must be regarded as an ill-starred effort. It is obvious that unless possible investors could be made to adopt the particular kind of building which the Council ordained, the scheme of control could not be complete. Investors continued to be reticent in the matter of coming forward to build on the Council's sites, which were governed by conditions which did not appeal to them; and this state of affairs continuing, the Council lost heart: they allowed their initial good impulse to fall away, and for some years a haphazard sort of control seems to have been permitted. Kingsway, one might say, has been built up almost in default of the Council, and the very noteworthy success of its recent development is due to a firm of architects, Messrs. Trehearne and Norman, who worked out designs for a large number of buildings, the most successful of which is the block comprising Empire House, India House, and Canada House at the junction with Aldwych. We give an illustration of it below. It is a well-studied composition, and though there are points of detail which pertain more to clever draughtsmanship than appropriate enrichment, we should like very much to see this design repeated at the opposite corner—an arrangement that would give two sentinel buildings at the southern end of Kingsway. The corner is marked at the top by an octagonal turret, and is most effective; moreover, in this design, as in others erected by the same architects, the fenestration, giving abundance of light to the offices within, is very successfully worked out.

Another satisfactory design is the Public Trustee building, by Mr. A. J. Pitcher, of H.M. Office of Works. Being a Government office, the ordinary conditions did not obtain in this case. The architect had a freer hand, and he has achieved a very successful result.

The general contractors for Empire House, India House, and Canada House were Messrs. William Taylor and Co. Among the work executed by sub-contractors was: Tiling and mosaic work, Messrs. Carter and Co., Limited, Poole; art metal-work, gates, etc., Strode and Co. and The Birmingham Guild; metal shop-fronts and windows, Crittall Manufacturing Company; marble work (Canada House), Art Pavements and Decorations, Limited; lifts, Waygood and Co., Limited, and Penrose and Co.; stone, Bath and Portland Stone Firms; stone carving, F. J. and A. T. Bradford; asphalt work, Thomas Faldo and Co.; steelwork (India House), Archibald D. Dawnay and Sons, Limited; electric lighting and telephones, Locke and Soares.

The general contractors for the Public Trustee building were Messrs. Kingerlee, of Oxford (foundations) and Messrs. Galbraith Bros., of Camberwell, S.E. (superstructure). Grates were supplied by Messrs. Bratt, Colbran, and Co. and The Carron Company, floor springs, etc., by Mr. Robert Adams, gates and railings by Messrs. Humphries, Jackson, and Ambler, Ltd. Mosaic flooring was executed by Bell's United Asbestos Co., Ltd., and "Ferro-con" patent stone work to entrance hall and corridors by Messrs. John Tanner and Son.



EMPIRE HOUSE, INDIA HOUSE, AND CANADA HOUSE, AT CORNER OF KINGSWAY AND ALDWYCH, LONDON.

TREHEARNE AND NORMAN, ARCHITECTS.

THE REGENT PALACE HOTEL, LONDON.

THIS very large building was completed in June last, from designs by Messrs. Henry Tanner, F.R.I.B.A., F. J. Wills, and the late W. J. Ancell. It occupies a triangular site close to the north side of Piccadilly Circus, and is stated to be the largest hotel in London, there being more than a thousand bedrooms and numerous public rooms. The elevation to Glasshouse Street and ground-floor plan are shown.

The building is a steel-framed structure, faced externally with glazed terra-cotta ("Marmo"), the roof being covered with green slates. No less than 6,000 tons of steelwork were required for the structure. There are nine floors above ground level, with a lower ground floor, basement, and sub-basement. The main entrance is at the apex facing towards Piccadilly Circus. Here one enters through a vestibule into a circular lounge lined with marble, and having a richly embellished ceiling in the form of a shallow dome. The vestibule opens into the reception hall, on one side of which is a staff counter and office, while on the other

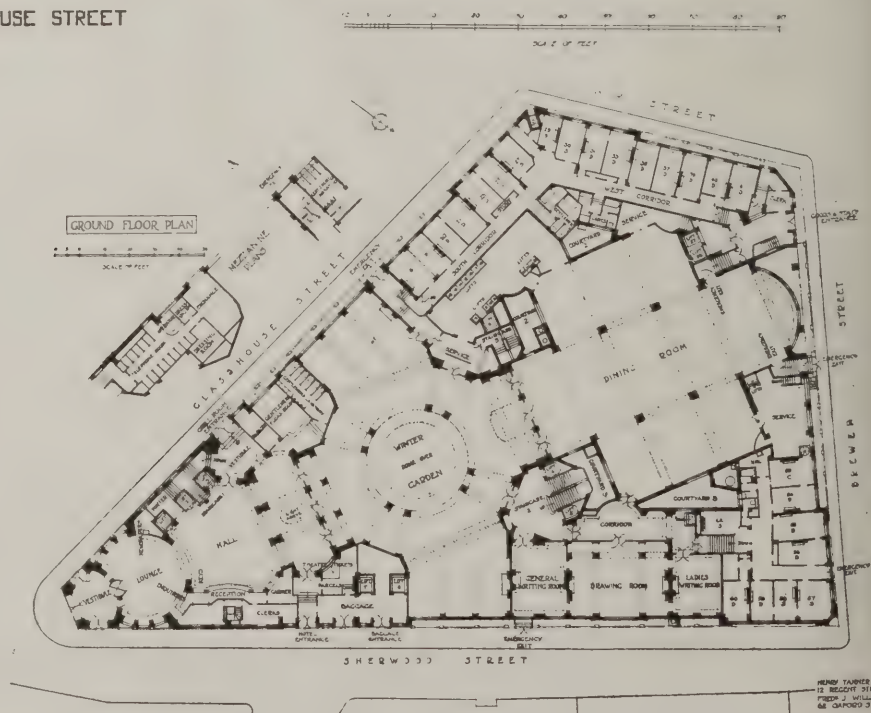
are a marble staircase and three passenger lifts serving the various floors. Beyond, entered through large swing doors, is the Rotunda Court. This is a huge apartment, low in height, but extending right across the site, from Glasshouse Street to Sherwood Street. It has over the centre a large dome-light filled with stained and leaded glass and is seated with chairs and tables, which are chiefly occupied for afternoon tea. The appearance of the place at this time of the day is indeed remarkable. Opening out of the Rotunda Court is the Louis XVI. Restaurant, another huge apartment, while from one side access is gained to a corridor off which open the general writing-room, the drawing-room, and the ladies' writing-room, and at this point also are stairs leading up to bedroom floors and down to the apartments on the lower ground floor, which include an immense grill-room, a smoking and reading room, a small palm court, and a billiard-room. In the basement are the kitchen and kindred offices, and in the sub-basement the heating, ventilating, and



ELEVATION TO GLASSHOUSE STREET



ELEVATION OF APEX



REGENT PALACE HOTEL, LONDON.



Photo : Bedford Lemere & Co.

REGENT PALACE HOTEL, LONDON.

HENRY TANNER, F.R.I.B.A., F. J. WILLS, AND W. J. ANCELL, JOINT ARCHITECTS.

power plant. From the first floor upwards the whole of the hotel is occupied by bedrooms, sitting-rooms, and bathrooms.

Particular attention has been given to the heating, ventilating, and general mechanical equipment of the hotel, for which section of the work Mr. A. H. Barker, B.A., B.Sc., Wh.Sc., professor in heating and ventilating engineering at London University, was responsible as consulting engineer. The electrical equipment, lighting and power, wiring, etc., was carried out by the hotel company's own staff, under the direction of the chief electrical engineer, Mr. Cushion.

One of the most interesting portions of the equipment is the control-room, where the official in charge can see at a glance what is the position of affairs in all parts of the building—how much air is being delivered into each of the reception-rooms, what is the temperature of it, how much water there is in the water tanks, what is the boiler pressure, the temperature of the hot water, the proportion of CO_2 in the flue gases in the

as there is more than liberal bath accommodation, the provision of hot water was one of the most difficult problems in the entire installation. The supply to the hotel, and to every bedroom in it, is furnished by three very large calorifiers fixed in the sub-basement heating room, adjacent to the main boilers. The temperature of the water is automatically controlled by electric valves. There are also two large storage cylinders fixed on the roof holding 20,000 gallons of hot water.

For the lighting of the building some 6,000 Osram lamps have been installed, and the wiring has been laid out in two systems to comply with the L.C.C. regulations.

A most complete hydraulic vacuum cleaning equipment, which removes the dust from carpets, etc., direct to the drain, has been installed, and there is a pneumatic dispatch system serving all parts of the building.

The cost of the hotel is stated to be £600,000.

The general contractors were Messrs. J. Mowle



REGENT PALACE HOTEL: ENTRANCE HALL.

chimney, and so forth; and not only can he see what is going on, but he can control it also. The heating of the hotel is effected partly by hot-water radiators, partly by vacuum steam, and partly by electric heaters; the last-named are used for the bedrooms.

The kitchen is of unusual height and size, and fitted with probably as fine a cooking plant as is to be found anywhere. Steam, gas, electricity, and coal fuel are all employed. The whole of the ceiling is false, with a ventilating space over the entire area. It is perforated by innumerable holes cast in removable panels, so that the entire ceiling can be periodically taken down for cleaning. From this false ceiling-space the air is drawn to a fan on the mezzanine floor. This fan is of sufficient power to change the whole of the air in the kitchen and surrounding rooms every one and a half minutes. The air is delivered into a large duct, which conducts it to the extreme top of the building. The smell of cooking is thus entirely avoided.

As every bedroom has its own hot-water supply, and

and Co., Ltd., and the steelwork contractors Dormer Long and Co., Ltd. The heating, ventilating, and hot-water systems were installed by J. Jeffreys and The Leeds Fireclay Co., Ltd., supplied and fixed the whole of the "Burmantofts Marmolite," which forms the facing of the building. The decoration of the Rotunda Court was carried out by The Bromsgrove Guild Messrs. George Jackson and Sons, Ltd., executed decorative work in the drawing-room, and also the large ceiling of the grill-room. Messrs. Wallis Gooddy, and Cripps carried out part of the marble and mosaic work. Wall tiles for bathrooms and lavatories were supplied by Messrs. Minton and Co. The metalwork was executed by Messrs. H. W. Cashmore and Co. and Strode and Co. Electric-light fittings were supplied by The General Electric Co., Ltd., Strode and Co., and Burt and Co. The lift installation comprising altogether thirty-two lifts (including passenger and service), was carried out by Messrs. W. Good-Otis, Ltd.

NEW NORTH COURT, EMMANUEL COLLEGE, CAMBRIDGE.

EMMANUEL College, Cambridge, is known best for its great quadrangle and the chapel by Wren, centrally placed on the east side of the quadrangle and connected with the other buildings by an arcade on either side, with a gallery over.

Apart from the new north quadrangle, here illustrated, the modern additions to Emmanuel have been few. The late Sir Arthur Blomfield erected a new master's lodge and added an oriel to the communion room; a large brick building was added at the east end of the college garden; and there still a detached block in the same garden, providing new lecture rooms, etc., was built from designs by Mr. Leonard Stokes. The new north court, completed this year, is by far the most important of the modern additions. It is a remarkably effective piece of work, full of vigour. The buildings have been erected on a site bordered by Emmanuel Street and Drummer Street—to the north of the old College buildings—and are grouped on three sides of a quadrangle, the front side being open, with a railing across. They provide sixty sets of rooms for undergraduates and two rather larger sets for Fellows. The arrangement of the ground is shown by the accompanying plan, and a similar arrangement is adopted for the floors above. It will be seen that each set comprises a good-sized sitting-room and bedroom, with lobby and gyp room

and space for coals, the Fellows' sets having two sitting-rooms and two bedrooms, with bathroom. On each staircase there is a bedmaker's room with slop sink and water laid on. The new court is connected with the old buildings of the College by means of a subway under Emmanuel Street, this subway entering the porter's lodge close to the gate, so that the porter may command both approaches. Connected with the porter's lodge is a cloister, which masks a long bicycle store, and forms also an approach to the bathrooms and other offices—a very ingenious arrangement.

The buildings are entirely carried out in stone, the rubble walling being of stone from the neighbourhood of Bath, and the dressings of Weldon stone.

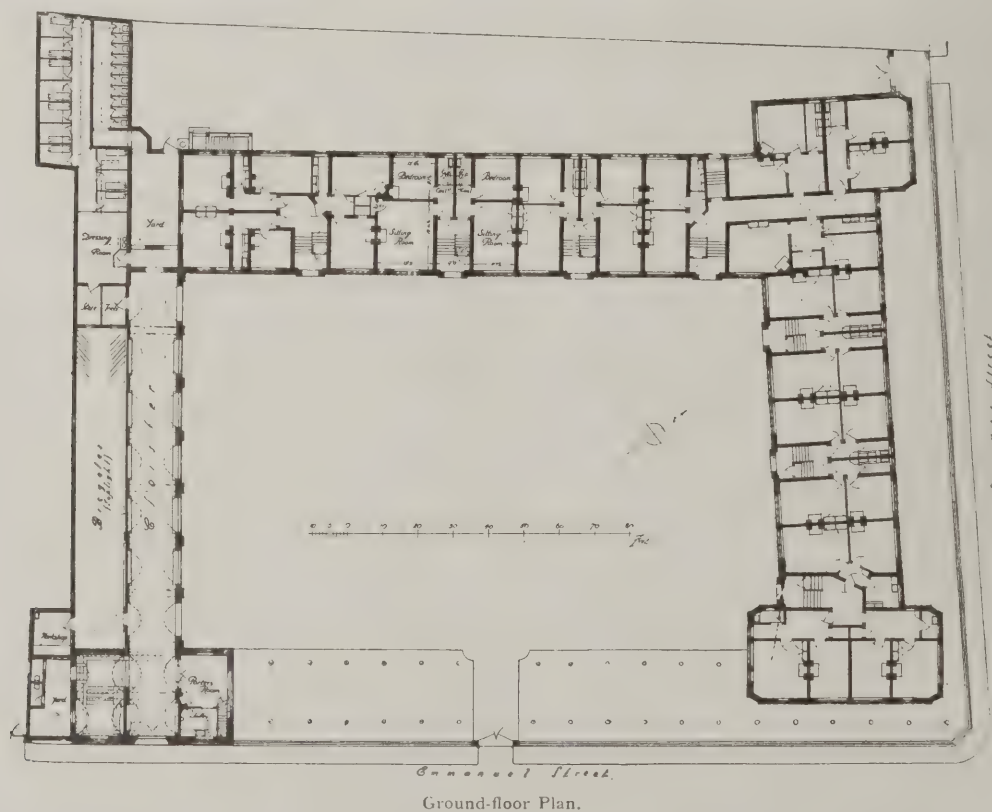
A feature of the court is the sunk oval lawn in the centre, this being enclosed by a dwarf wall, and the space between it and the buildings being paved with brick and stone. Two old trees that stood on the site have been retained, and serve to redeem any appearance of barrenness which the court might have had without them.

The general contractor for the buildings was Mr. William Saint, of Cambridge. Glazed bricks were supplied by The Leeds Fireclay Co., Ltd.; "Heaped" fires by Messrs. Bratt, Colbran, and Co. and the Heaped Fire Co., Ltd.



EMMANUEL COLLEGE, CAMBRIDGE: NEW NORTH COURT.

LEONARD STOKES, F.R.I.B.A., ARCHITECT.



EMMANUEL COLLEGE, CAMBRIDGE: NEW NORTH COURT.

LEONARD STOKES, F.R.I.B.A., ARCHITECT.

MAPPIN AND WEBB'S NEW PREMISES, REGENT STREET, LONDON

DESPITE the War, which has so largely interfered with general building operations, the rebuilding of Regent Street proceeds apace, though it is not with any feeling of satisfaction that one sees the delightful stuccoed fronts of John Nash's day disappearing to make way for grandiose stone façades of miscellaneous character. The shopkeepers

building has a steel frame with a stone façade of five storeys, the design corresponding to the scheme for Regent Street which has been more or less decided upon by the Crown. Messrs. Mappin and Webb occupy the whole of the building, but from an architectural point of view the chief interest centres in the shop on the ground floor. The accompanying



NEW PREMISES FOR MAPPIN AND WEBB, REGENT STREET, LONDON: DETAIL OF GROUND-FLOOR SHOP.

J. J. JOASS, F.R.I.B.A., ARCHITECT.

and the Crown have had a tussle over Regent Street, and, so far as the architecture of the street is concerned, the Crown have been in the wrong, and must be regarded as chiefly responsible for the disappointing result of the rebuildings that have taken place. One of the latest buildings to be completed is No. 172, the new premises of Messrs. Mappin and Webb, Ltd. Mr. J. J. Joass, F.R.I.B.A., was the architect. The

illustrations show this. It is a striking piece of design, and the colour scheme is very harmonious. The shop front itself makes full recognition of the requirement for a large amount of unbroken window space, the opening being framed in with marble, and the window fitted with a bronze frame. The embellishment of the interior is Louis XVI. in character, the design being based upon work in the Petit Trianon, and the show-

cases being all modelled on well-known pieces of French furniture of this period. The walls are panelled with oak bleached to an antique tone, the carved ornaments and mouldings being gilt. The counter cases and chairs are also of oak, and the floor is spread with a number of rich carpets. In the centre of the space is an elliptical balustrading around the staircase which leads to the showroom on the lower ground floor, the balustrading being lacquered to an old gold colour, and the steps and landings of the staircase carried out in white marble. The walls of the showroom are lined with statuary marble, and the

space under the pavement and street has been utilised to the utmost. On the first floor is a showroom devoted to leather goods, the finishings here being in mahogany. A sumptuous passenger lift serves the three shop floors, a staff lift serving all the other floors of the building. The upper floors are occupied entirely by the administration departments of the firm.

The general contractors were Messrs. Holland and Hannen. The steel frame was supplied and erected by Redpath, Brown and Co. The shop fronts and fittings were carried out by Courtney, Pope and Co. Ltd., and the steel and bronze window frames by



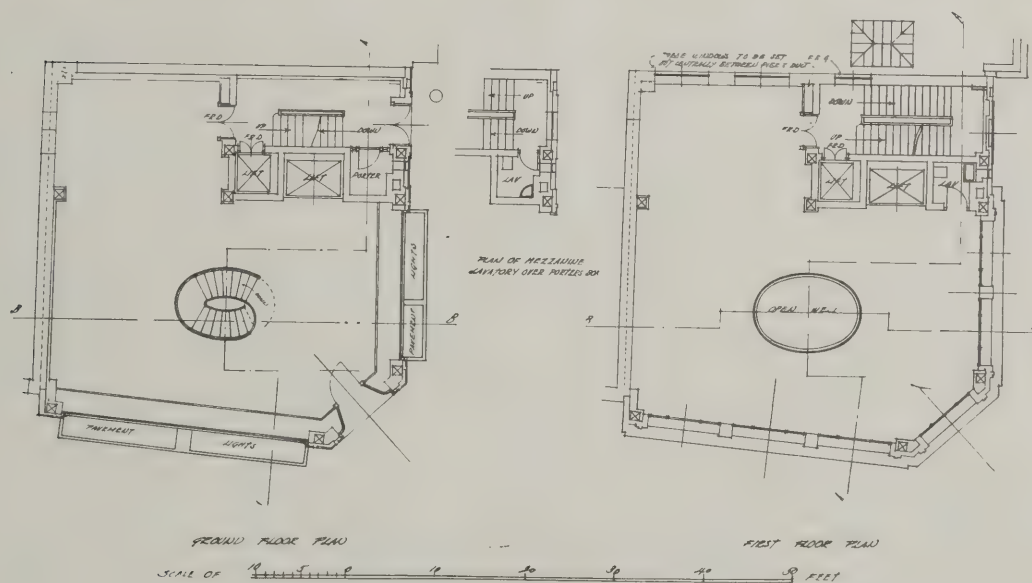
NEW PREMISES FOR MAPPIN AND WEBB, REGENT STREET, LONDON.

J. J. JOASS, F.R.I.B.A., ARCHITECT.

the Crittall Manufacturing Co., Ltd. Messrs. C. Meller and Co. executed the panelling and ceiling in the ground-floor shop; The Bromsgrove Guild the elliptical staircase, lift grilles, and cage; and J. Whitehead and Sons the marble lining to walls and stairs. Messrs. Howard and Sons supplied the parquet for basement, ground, and first floors (the upper floors were laid by the Acme Flooring Co., Ltd.); Messrs. Burt and Co. the electric-light fittings; Allen and Co. the main stair railings; and Singer and

Co. the outside railings. Lifts were installed by Smith, Major and Stevens, Ltd.; the heating and ventilating was carried out by Comyn, Ching and Co., Ltd.; and the electric-lighting installation by Higgins and Griffiths. A tube cash system was installed by the Lamson Pneumatic Tube Co., Ltd.

Altogether this is a very rich example of a modern shop, its richness being especially appropriate to such an establishment as Messrs. Mappin and Webb's. Plans of the ground and first floors are given below.



NEW PREMISES FOR MAPPIN AND WEBB, REGENT STREET, LONDON.

J. J. JOASS, F.R.I.B.A., ARCHITECT.

CHEMISTRY BUILDING, UNIVERSITY COLLEGE, LONDON.

AT University College, Gower Street (now incorporated in London University) a scheme of new buildings is being carried out to the design of Professor F. M. Simpson. On the north side of the College, facing Gower Place, is the new Chemistry block. On the ground floor are two lecture theatres—the larger of which, at the east end of the block, accommodates 240 students—a very large laboratory for inorganic chemistry, research-rooms,

operation-room, balances, and laboratories for the professor and his assistants. On the first floor are a lecture theatre to seat 110 students, a large organic laboratory, research rooms, etc., while on the top floor are organic laboratories, research rooms, and laboratory and rooms for the Department of Pathology. Messrs. Dove Bros., Limited, were the general contractors, the fittings being carried out by Mr. J. Carmichael.



CHEMISTRY BUILDING, UNIVERSITY COLLEGE, LONDON: MAIN ENTRANCE, GOWER PLACE.

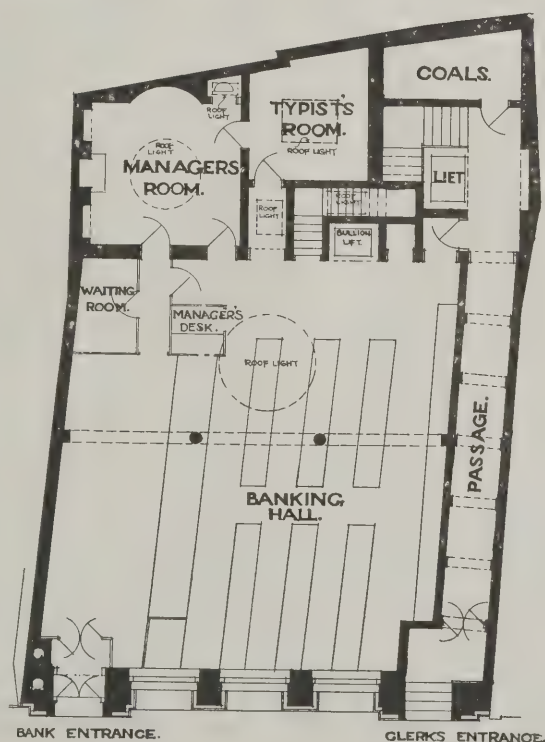
PROFESSOR F. M. SIMPSON, F.R.I.B.A., ARCHITECT.

LONDON JOINT STOCK BANK, NEWCASTLE.



Photo: Thomas Lewis, Ltd.

THE new building which has been erected at Newcastle-on-Tyne for the London Joint Stock Bank from designs by Mr. Walter H. Brierley, A., F.R.I.B.A., presents a stage of 50 ft. to Grey Street, the elevation being four storeys in height, boldly designed in the style of the Late Renaissance. It is executed entirely in Portland stone. The ground and basement floors of the building are used by the bank, the upper floors being let to other offices. The banking hall is about 40 ft. square and 20 ft. high. The walls are completely panelled with Mezzanin stone, divided into panels with bands of Irish green marble. The ceiling is of hand-moulded and elaborately carved plaster, and contains the arms of London and Newcastle. The hall is supported by Cipollino columns, with carved caps and bases, support beams across the banking hall and give it a rich appearance. The windows and doors are of bronze, and the fittings and screens are of polished mahogany, all having



LONDON JOINT STOCK BANK.
NEWCASTLE-ON-TYNE.

WALTER H. BRIERLEY, F.S.A., F.R.I.B.A., ARCHITECT.

been specially designed by the architect. The floor of the public space in front of the counter, of a special geometrical design, is laid with rubber in order to lessen noise.

The first, second and third floors consist of convenient and good-sized offices, which have been let to important tenants. All the offices are well lighted, and are warmed both by open fires and radiators; they are equipped with well-appointed lavatories, a press-button passenger lift, etc.

The general contractor for the building was Mr. Thomas Lumsden, of Jarrow. The ceiling in the banking hall was modelled and executed by Messrs. George Jackson and Sons, Limited, and G. P. Bankart, of London, and the bank fittings were supplied by Wylie and Lochhead, of Glasgow. The carving, both wood and stone, was executed by H. H. Martyn and Co., of Newcastle. The marble work was executed by Arthur Lee and Bros., of Hayes (now H. C. Tanner, of Hanwell).



Photo: Thomas Lewis, Ltd.

LONDON JOINT STOCK BANK, GREY STREET, NEWCASTLE-ON-TYNE.

WALTER H. BRIERLEY, F.S.A., F.R.I.B.A., ARCHITECT.

NEWS ITEMS.

New London Hotel.

is stated that a new hotel at King's Cross, London, to be called the Terminus Hotel, is to be erected on a large site adjoining Euston Road.

New Town Hall at Sale.

A new town hall and public offices, including a fire station, has been erected at Sale, Lancashire, at a cost of £11,000. C. T. Adshead, A.R.I.B.A., of Manchester, was the architect.

Partnership.

Mr. George Reavell, A.R.I.B.A., of Alnwick, is taking into partnership Mr. Arthur Tebbs, who has been for thirty years his chief assistant. The firm will continue the practice at the old address, Lloyd's Bank Chambers, Alnwick, and at the branch office at 51, Bridge Street, Morpeth.

Waterproofing Rough-Cast Walls.

Rough-cast walls are often porous, owing to their uneven surfaces, which allow the water from driving rains. It is of interest therefore to note that ten houses in an exceptionally exposed situation at Walsley Vale were rough-casted with Pudefoot cement more than two years ago, and are still perfectly watertight.

Sheffield Painters' Rates of Wages.

The Sheffield operative painters have secured an advance in wages of a halfpenny per hour under the award of Mr. J. Greer, K.C., who was appointed by the Board of Trade to act as arbitrator between masters and men. The painters' rate was for an increase of 1d. per hour. The standard rate of wages for painters in the Sheffield district from January 1 will be fixed at 9d. per hour.

Building Contracts Under War Conditions.

The building contractors at present engaged in carrying out work for the Dublin Rural District Council held a conference recently for the purpose of discussing the difficulties under which they laboured because of the increased cost of materials used. It was decided to present a petition to the District Council, asking for such extra allowances as would enable them to carry on and complete their contracts.

Old Southwark Bridge.

A souvenir of his year of office as the man of the Bridge House Trust, Mr. Gordon Stanham has been presented with an inkstand made of wood and cast-iron from old Southwark Bridge. The inkstand is of wood from one of the piles, and the ink well of cast-iron from one of the piles. Southwark Bridge is now undergoing reconstruction at a cost of a quarter of a million sterling. But for the war the bridge would have been opened this year. As it is, the most that can be said is that in 1917 may see the opening.

Discoveries at St. Augustine's, Canterbury.

St. Augustine's Abbey Church, Canterbury, the layer of earth which marked the level of the monks' choir at the suppression was removed some months ago, and further excavations revealed the foundations of Abbot Wulfric's work. It consists of a building circular within an octagonal without, for which there is no parallel in England before the twelfth century, when there were the circular

Templars' churches modelled on the church of the Holy Sepulchre. Within is a circle, surrounded by eight solid masonry foundations, on which stood either pillars or solid piers, and an octagonal exterior, which opened on the east into the original chapel of St. Mary, built by Edbold between 616 and 618, and on the west into the original Abbey church, which was built a few years earlier by Ethelbert and St. Augustine. The porticus of St. Gregory has been discovered, with the tombs of Laurence, Mellitus, and Justus, the second, third, and fourth Archbishops, in a row from east to west, against the north wall, just as they were described by Grocelin, a monk of Flanders, over eight hundred years ago.

ARCHITECTS AND INCOME TAX

No reply having been received to the letter addressed by the president of the Royal Institute of British Architects to the Chancellor of the Exchequer, the following further letter was sent:

November 15, 1915.

To the Rt. Hon. R. McKenna, P.C., M.P., Chancellor of the Exchequer.

Sir,—The President of the Royal Institute of British Architects desires me to say that his Council will very greatly appreciate a reply to his letter of October 25 on the subject of the income tax paid by architects. They realise the heavy burden of public business which is now imposed on the Ministers of the Crown and they are anxious not to add to it unnecessarily, but at the same time they feel that it is most urgent that the attention of the Government should be called to the painful position in which so many members of the architectural profession will soon find themselves unless steps are taken to relieve them from the payment of income tax for a period during which they have earned nothing. The fact that their difficulties are—no doubt unavoidably—the direct result of the Government's action in stopping building operations affords an additional reason for special consideration being granted to them.—I have the honour to be, Sir, your obedient servant,

IAN MACALISTER, Secretary R.I.B.A.

The following reply has been received: Treasury Chambers, Whitehall, S.W.

November 26, 1915.

To the Secretary, Royal Institute of British Architects.

Dear Sir,—With reference to your letters on the 15th instant and 25th ultimo on the subject of income tax, I am desirous by the Chancellor of the Exchequer to say that for the purposes of taxation it would not be practicable to draw distinctions between the various classes of businesses which in different ways have especially suffered from the war, or to say how far the income of one or another had been directly affected by Governmental action.

Individual cases of special hardship cannot be provided for by legislation, and it is suggested that as and when they arise they should be brought to the notice of the Board of Inland Revenue with a view to any such postponement of payment as in the circumstances it may seem fit to allow by administrative action.

I am to add that the tax payable for future years would, of course, be affected by the inclusion in the average of the small profits of the years of depression.—Yours faithfully,

H. P. HAMILTON.

THE PAGODA AT KEW.

The following very interesting particulars of the Pagoda at Kew appeared in a recent issue of the Bulletin of the Royal Gardens, Kew:

The Pagoda was built in 1761-2 to the design of Sir William Chambers. As originally built, the main roof with the ornamental chains and hoops to the terminal pole were of copper, double gilded. The minor roofs were covered with highly-coloured iron plates, and ornamental dragons crouched at the hip terminals of the roofs. The dragons were in wood, and treated with highly-coloured enamels. These features existed up to about 1820. But the iron cover plates of minor roofs and the wooden dragons must have perished and been removed soon after, when the roofs were slated. The severely straight lines of these roofs—now shorn of dragons and Eastern colour—was much lamented, and in 1845, when "an expensive scaffold had been erected round the Pagoda to paint the wood, etc., point the brickwork, and erect a new terminal," Sir W. J. Hooker suggested that it was a fitting opportunity to restore the original features of the Pagoda by fixing new "metal or glass" dragons to the angles of the roofs. This was supported by Mr. Decimus Burton, who, however, wished to improve on the original design. He suggested that in addition to restoring the dragons, the eaves should be curved up at the angles, and the roofs covered with copper, and that both roofs and brickwork should be painted to harmonise better with a Chinese structure. Projecting bells were to be hung at the hip terminals, and chains were to hang from the terminal pole to the eaves of main roof. But the estimated cost of £3,500 for these alterations made their execution impossible. Sir W. J. Hooker's suggestion to replace the dragons, and so restore the Pagoda to the original design was estimated to cost £850, and proved also too costly for acceptance. Nothing daunted, he returned to the charge in 1856, renewing his suggestion of 1845 for the restoration of the dragons, etc., but they were again "postponed for another year," and so the Pagoda remains to this day.

On the occasion of executing the periodic painting and repairs at the Pagoda this summer—1915—investigation was made to discover the cause of so much rain coming through the roof and ceiling. The roof generally was found to be covered with copper. It is in excellent condition, and shows no signs of disturbance or repair since its original construction. The pole and its flashing, however, were found to be so defective as to need renewing at once. . . . On taking down the old pole, a pencil note was found on the lower end, under the roof, recording that "this pole was erected by J. Wickens, August 1, 19(?)7." A knot on the top of the third figure made this date very uncertain. But, fortunately, on uncovering the table round the pole at the roof apex, two more records were found of the same character, with the definite date of 1867. This definitely fixes the date of erection of the pole just taken down. A further interesting discovery was made of a cut-in date of August 20, 1825, on the bed-plate on which the pole stands, and it is fairly certain that a new pole would be erected at the same time as the insertion of the bed-plate. There is evidence, therefore, that the various terminal poles were erected at the following dates: When the Pagoda was new in 1762, and in August, 1825, June, 1845, August, 1867, and the last in September, 1915.

TRADE AND CRAFT.

A Prosperous Year's Record.

Messrs. Mather and Platt, Ltd., electrical, gas, hydraulic, textile, and fire engineers, of Park Works, Manchester, report satisfactory business in all their branches during the past year, under the very exceptional and difficult circumstances of the war. The output of the electrical department is far ahead of the previous record, and, with the exception of a certain amount of plant for shipment, practically the whole of the work turned out has been for war service contracts for a variety of purposes. The firm have taken the opportunity during the general trade dislocation due to the war to improve and perfect the large two-cycle double-acting high-speed vertical gas engine, so that when trade again becomes normal they will be prepared to manufacture these engines in large units of from 500 b.h.p. upwards. The important installation of Mather and Platt's patent mechanical filters for Oldham Corporation Waterworks has been successfully completed, as well as a further extension at Sheffield of a battery of six filters, making a total of sixty-one, for the Sheffield Corporation. Filters have also been installed at two large camps and at several big munition factories. For the City of Tiamen, in Japan, an installation has been completed comprising fourteen open-type mechanical filters, each 12 ft. in diameter, with a total capacity of 4,000,000 gallons per day. During the year the firm have supplied turbine and centrifugal pumps for an ever-widening range of purposes, and have had the distinction of constructing the largest tank yet undertaken by any firm. This was a tank having a capacity of 200,000 gallons, for the Consett and Weardale Water Co., Durham. The base covers an area of 5,400 sq. ft., the dimensions being 100 ft. by 54 ft. by

6 ft. 6 in. deep, and the weight when full 1,035 tons. The order was placed on October 23, 1914, and the tank was completed and filled on February 18, 1915. The fire department of the firm have carried out a number of important installations of "Grinnell" auto-sprinkler and fire alarms during the year, and in view of the operation of the Merchant Shipping Act in the near future, whereby the use of certain fire appliances is required for the protection of ships at sea, Messrs. Mather and Platt's well-known chemical hand extingisher, the "Simplex," is being extensively adopted.

Women as Woodworkers.

A conference was recently held at the Home Office between the representatives of the employers and operatives' associations in the wood-working industry. It was convened by the Home Office to endeavour to meet difficulties which have arisen in consequence of the loss of men, due to the recruiting campaign, and to consider what arrangements can be made to substitute women in their place. The meeting was one of a series of conferences which the Home Office has been holding with employers and operatives in industries throughout the country to consider how industries can be carried on in the temporary absence of male labour. After discussion the conference passed a resolution expressing the opinion that in any town or place where in any branch of the industry it is found necessary to employ female labour this should be permitted, subject to a suitable agreement between the employers and the operative associations. The following associations represented the employers: National Federation of Building Trades Employers, National Federation of Furniture Manufacturers, High Wycombe Employers' Association, Bristol Sawmillers' Association, Western Counties Timber Trades

Association, Scottish Furniture Manufacturers' Association, Cabinet Trades Federation, Liverpool Master Builders' Association, Liverpool Sawmillers' Association, Manchester and District Sawmillers' Association, Manchester and Salford Building Trades Association, National Federation of Vehicle Trades, Institute of British Carriage Manufacturers, Eastern Coast Sawmillers' Association. The operatives' associations were: National Amalgamated Furnishing Trades Association, Amalgamated Society of Woodcutters and Machinists, Amalgamated Cabinetmakers' Society, General Union of Carpenters and Joiners, Amalgamated Society of Carpenters and Joiners, Amalgamated Union of Upholsterers, Organ Builders' Trade Society, Wheelwrights and Coachwrights' Operative Union, London and Provincial Coachbuilders' Trades Association.

Roads 108 ft. Wide.

The future policy to be adopted in the construction of main arteries and "secondary" roadways in the development of Birmingham was considered at the meeting of the Public Works Committee when it was resolved that the minimum width of arterial roads should be 108 ft. while that of secondary roads should be 65 ft. The proposed regulations will apply to all new roads constructed during the development of the city, and also to any reconstructive work upon existing roadways. It may be explained that the Town-Planning Committee have the line of certain great arterial roads upon their maps and also certain roads of secondary importance, but since the commencement of the town-planning schemes great thought has been bestowed upon the requirements of roadways, particularly having regard to the provision of separate tracks for tramways, wide footways, etc.

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NOTE.—Monsieur Considère was the Inventor and Patentee of Spiral Armouring.

HOUSING
ON THE KENNINGTON ESTATE
OF THE DUCHY OF CORNWALL
FOR
HIS ROYAL HIGHNESS
THE PRINCE OF WALES
DUKE OF CORNWALL



DECEMBER 1915



ENTRANCE DOOR TO THE ESTATE OFFICE.

THE DUCHY OF CORNWALL ESTATE AT KENNINGTON.

THE improvement of town conditions from a residential point of view has in this country been mainly concerned with the future development of suburban areas. Housing schemes in the centres of our cities have been regarded as necessary makeshifts—in Birmingham, largely taking the form of the remodelling of existing slum property; in London and Liverpool, the building of tenement blocks. All the energies of our town-planners, seeking to make use of the Act, have been devoted to devising schemes which will prevent the By-law Suburb from continuing its cancerous growth over the face of the land; under the clauses limiting the number of houses to the acre, the "garden-city" principle of house density has been generally acquiesced in; and whether or not one agrees with the more drastic proposals of the Garden City itself, it can hardly be denied that it is desirable that the next century's structure of growth round our existing towns should be one of gardens rather than one of red-brick and macadam. An essential means of success for the garden-suburban town-planning scheme is the provision of arterial highways of communication, without which a man's garden home would be imperfectly accessible from his work; human transportation and improved suburban dwellings are inseparably connected, although one still occasionally hears purblind housing enthusiasts exclaiming against wide main roads. Now the question that concerns us at the moment is, who are to be the inhabitants of these ten thousands of acres that will soon be scheduled under town-planning schemes as land likely to be used and shortly developed for building purposes? Is it the increase of our population? Yes, indeed, partly so at least; but also there will be, it is to be hoped, a great departure from the centre of our towns. Road and rail communications, primarily devised for the diurnal journeyings to and from work, will first be used for a permanent residential exodus. Then will the town landlord find that there are no longer clamouring tenants for his exhilarating dwellings, and he will have to set about making his property actively attractive, or be ruined. Some of the land will be required for the natural expansion of the commercial and shopping districts, but the remainder will have to be redeveloped if any urban competition is to be set up in opposition to the suburban residential magnet. The property referred to is that inmost ring of outworn dwellings, found in every town and most extremely exemplified at Dublin in the neighbourhood of Mountjoy Square and the Dominican streets, fitly named "extreme," for here is most evident the typical contrast of fine architecture and filthy habitations. No number of artificial corporation housing schemes in the neighbourhood of such areas will eradicate them. The only economic cure is the natural exodus of their inhabitants, lured away with the prospect of house room, a garden, and cheap fares to their work. Then, indeed, will the owners of our ubiquitous Dominican streets bestir themselves with a zeal that the recommendations of fifty Government Commissions cannot arouse.

At Kennington, on the south-eastern side of London, the town landlord, finding himself possessed of outworn property, has begun his rebuilding without waiting for such ignoble stimulus. The Prince of Wales, as Duke of Cornwall, is here moving, as is fitting, head of the times, and when the general urban building takes place, as foreshadowed, the country will have its model to hand, ready to afford inspiration. And if such town houses as those at Kennington appeal to certain people more than the cottages of the Ealing tenants or the Hampstead suburb, let not the Garden City advocate be cast down; there will always be sons of Adam who will not

dig, and daughters of Eve who like a full-flagged pavement and town life at their door; and if these are obtainable on the spacious lines of the Duchy of Cornwall estate, there can be no objection to their indulging their natural inclinations to artificiality. If the inhabitant of the Garden Suburb has the satisfaction of eating his home-grown cabbage and the excitement of competing in sweet-pea contests, the town-dweller has leisure for the cultivation of other human activities, and those perhaps leading to a greater intensity of civilised life. For it must be clearly understood that the remodelled central areas of our towns can never become garden suburbs: the ideal of the latter is the single house standing in its own garden, to which semi-detached, three, and four groups are the nearest economic approaches obtainable. But the urban estate requires the long unbroken row, to produce the true effect of city neighbourliness; not facing narrow endless streets, but disposed around ample squares, the town dweller's communal garden. It must have some such character as that set forth by Sir Thomas More for his ideal city—a prophetic description of Georgian architecture: "The houses be of faire and gorgious building, and on the strete side they stande joyned together in a long rowe through the whole streate without any partition or separation. . . . For their cronicles recorde and wnesse that the houses in the beginning were very low, and like homely cotages or poore sheppard houses, made at all adventures of everye rude pece of tymber, that came firste to hande, with mudde walles, and ridged roofes, thatched over with strawe. But now the houses be curioslye buylded after a gorgious and gallante sorte, with three storyes one over another. The outsides of the walles be made either of harde flynte, or of plaster, or els of bricke, and the inner sydes be well strengthened with tymber work. The roofes be plaine and flat, covered with a certen kinde of plaster that is of no coste, and yet so tempered that no fyre can hurt or perishe it, and withstandeth the violence of the wether better than any leade."

Certainly the "homely cotage," or the "poore sheppard house," however suitable with its rude timber work and high-ridged roof for the rural suburb, is out of place in the town. Messrs. Adshead and Ramsey, the architects, have realised that the only faults of the houses they are demolishing at Kennington, to make room for their own, are worn-out materials and antiquated planning. As to architectural character, they could not be bettered, and instead of ransacking Holland or facsimiling Cheshire black-and-white, they have dared to dispense with travelled sketches and to hide their store of exotic architectural whimsies. A couple of houses in this quiet London manner may not be noticeable; it is only in extended use that its fitness and charm become apparent; it is therefore doubly fortunate that the Kennington estate provides a sufficiently continuous quantity for its qualities to be rightly appreciated. That there need be no such thing as monotony, is abundantly evident from the accompanying illustrations. The more emphatic treatment of eaves and roll tiles lends a distinctive character to the Vicarage (Plate XVIII.) and the Old Tenants' Hostel (Plates I.-III.) that, without symbolical labouring, appears subtly suitable: delicate balconies, enriched panels, balustraded parapets and columnar porches give the Flats (Plates X.-XIV.) an air of refinement that wholly dissociates them from the necessitous tenement: the trellis porch, interlaced bars and a squat proportion produce in the new Square (Plate VI.) the homely aspect of the Englishman's own house.

The way these differentiating characteristics have been seized upon by the authors, and, within the frame of a harmonious style, worked so as to express the inner significance of these buildings, promises well for the further use of this medium.

Again, within the same type—as for example, the Flats, of which several blocks have been erected—there is scope for endless variety of surface treatment, in the judicious disposal of bands and panels, by which an individual interest is given to blocks of similar outline form. And what is particularly notable is the way in which the architects have combined refinement and delicacy of detail with an absence of frigid scholarship. The entrance to the Old Tenants' Hostel (Plate I.) is exactly where a lesser hand might have gone wrong: an archway 13 ft. high, flanked by Ionic pilasters—what a chance here for pulling out the full diapason of the neo-Grec organ, and how incongruous it would have been to the old people whose front door it is! Instead, combined with a certain largeness and breadth, reflecting its royal founder, there is a homely quality, obtained by the effortless grouping of overhanging wood cornice, cupola, bell and weather-vane. Such architectural self-restraint is rare in these self-conscious days.

Two other new buildings there are that show the extent of the social field covered in this rebuilding scheme: the Kennington Estate Office (Plate IX.) and the Crèche (Plate XVII.). The entrance doorway to the Office symbolises the dignity of the Crown, while in the Crèche the care of child-life finds fitting expression in the long casements of the garden front, lighting up cheerful nurseries and opening on to an airy balcony supported by slim columns.

Though enough has been built to produce that continuity of effect which is so necessary, it is only a beginning. Blocks of flats which one comes across here and there will eventually form parts of coherent streets, whose alignments are being revised; one can judge the effect of these extended treatments to some extent from the view looking down Courtenay Street (Plate X.) The Vicarage, again, is waiting for its church, which, from the designs that have been published, will escape the dullness of the typical late Georgian church that in former days would have been associated with this type of domestic architecture. Again, the Square has yet to have its complement of vegetation, fig-trees (that flourish so well in South London) growing up the walls and around the trellis porches; but, as may be seen from the general view on Plate VI., limes set in double rows have already been planted in the open space, and in a year or two these will form two clipped and shady alleys.

The grass of the quadrangle of the Old Tenants' Hostel, which is of course a design of more exclusive nature, already shows how much this greenery adds to the pleasant warmth of the London brick; in this quiet enclosure London is completely shut out (see Plate II.). The long sweeps of low unbroken roof are not overtopped by towering tenements, tall chimneys, or expanding gasometers; the sun shines out of an unobstructed sky, enlivening the whole enclosure, where flagged and cobbled paths and a central fountain with lead figure serve as a reminder of the eternal youth which should exist within our outward ageing bodies. Within the classic repose of their courtyard that so well reflects the dignity of age, the architects have allowed Mr. Poole, the sculptor, to intrude the romance of youth, with its grotesque batrachian satellite (the charm of the contrast may be appreciated by reference to the view on Plate IV.).

In the internal arrangement of both flats and houses the architects have not attempted any iconoclastic experiments; this is no sample show of freak plans. Up to the present they have apparently agreed with those who hold that the Parlour has not yet been completely discredited. It is simple enough, in the interests of cubic content of air-space, to point out forcibly what little use there is in a room that is hardly ever used. But fortunately utility is not the final aim. . . . there are ideals: these may be humble and overlaid with strange custom, but they should be fostered or disengaged rather than stamped upon or perverted. The Parlour is the shrine of this sentiment—improve your shrine if you will, make its ritual less rigid, attempt to find substitutes for funeral cards and antimacassars; but do not, having ruthlessly swept it away, erect the slopstone into the domestic altar.

The planning for flats gives more scope for legitimate innovation, not so much in the units of the habitations themselves as in their grouping and association. The provision, for example, of a combined service of hot water for a whole block will interest the sanitarian: it is a type of communal economy that tramples on no domestic sanctities and might well be further extended. The architectural eye will be pleased at the neat lay-out on plan occasioned by the two segments at the entrance to Courtenay Street (Plate X.) These two crescents, with the associated shops (the most richly treated fronts on the estate) are carried out in a different colour from the rest of the new buildings: instead of the ochre London stock, they are built in a Crowborough brick, the colour of cream incarnadined, with rubbed arches of bright red. The result of this fuller colouring and greater richness is to join up the new estate imperceptibly with the older work in Kennington Lane.

It is of interest to note that the roofs are, for the most part, flat, being constructed of waterproof material covered with gravel. All the houses have electric light (which, up to a certain consumption, is included in the rent), and all have baths.

The importance and significance of the Kennington estate is thus two-fold; it is the first example of urban housing carried out on town-planning lines and conceived in no apologetic mood, as though it were a makeshift caused by the difficulty of carrying people out to the suburbs. No, this is frankly a group of town houses for town dwellers, and sets up a standard of its own, quite distinct from that of the suburb. The extent of the area dealt with and the radical re-arrangement in the proportion of built-on land to open space which is being effected in the site planning, lift this work above the piecemeal rebuilding of street blocks which is always taking place to a greater or less extent.

The other reason of its importance is, that it is artistically sound: that this should be achieved at the outset is indeed fortunate. We know how usual is the early fumbling of a new departure—the Garden Suburb is only now beginning to find its permanent idiom after endless experiments. At Kennington a satisfactory result has been obtained by the close study of a local tradition and usage which, carefully modified to suit modern requirements, was admirably adapted to its present purpose.

English towns in the future will gladly acknowledge their indebtedness to the King for initiating this first example of a modern town quarter, and to the Prince of Wales for its realisation

PATRICK ABERCROMBIE.



1.—OLD TENANTS' HOSTEL, NEWBURN STREET: ENTRANCE.

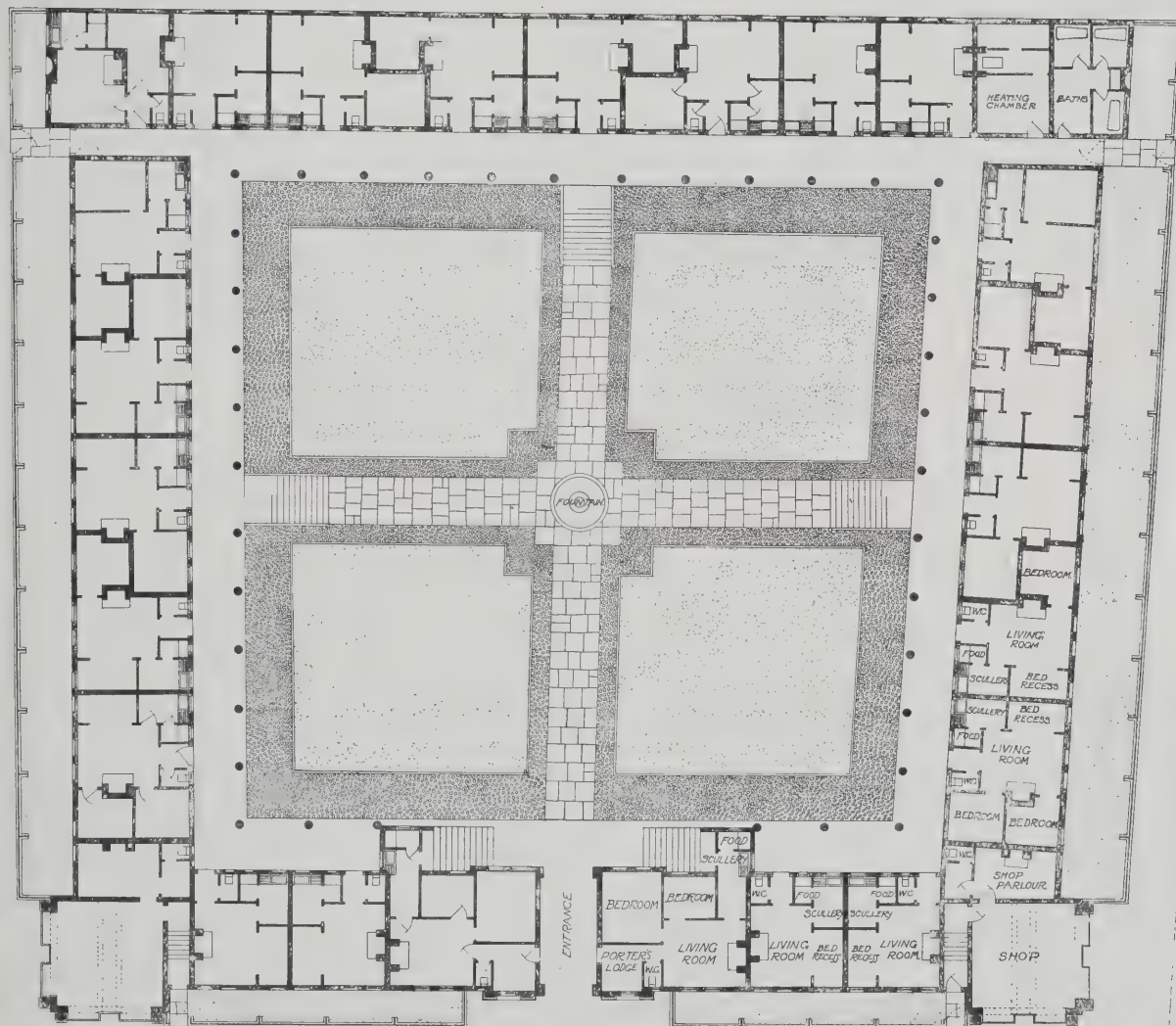


II.—OLD TENANTS' HOSTEL: VIEW OF QUADRANGLE.

DUCHY OF CORNWALL, KENNINGTON ESTATE.
OLD TENANTS' HOSTEL, NEWBURN STREET, S.E.



ELEVATION.



PLAN.

SCALE 0 10 20 30 OF FEET 40

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III.—OLD TENANTS' HOSTEL: GROUND-FLOOR PLAN AND ELEVATION TO NEWBURN STREET.



OLD TENANTS' HOSTEL: FOUNTAIN IN QUADRANGLE.



TWO HOUSES IN COURTENAY STREET.



Grocer's Shop at Corner of Old Tenants' Hostel.



Baker's Shop at Corner of Newburn Street and Sancroft Street.

V.—TWO SHOPS IN NEWBURN STREET.

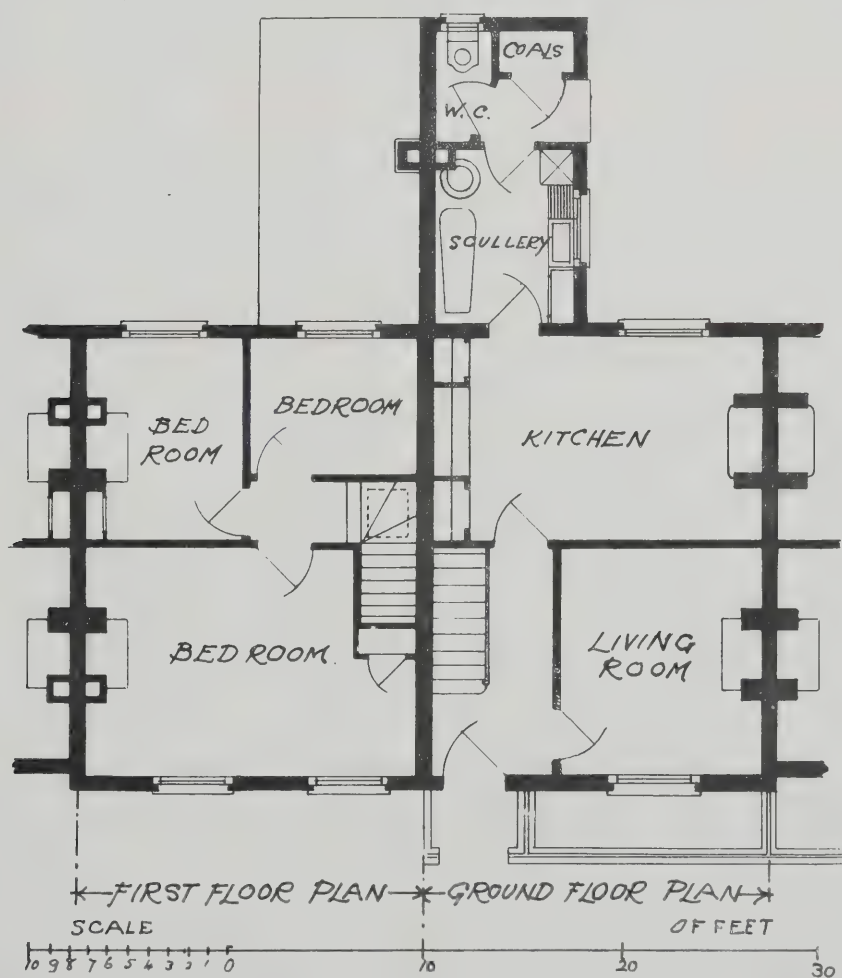


General View looking West.



Cottages on North Side.

VI.—COURTENAY SQUARE.



VII.—COTTAGES IN COURTENAY SQUARE: DETAIL OF ELEVATION AND PLANS OF GROUND AND FIRST FLOORS.



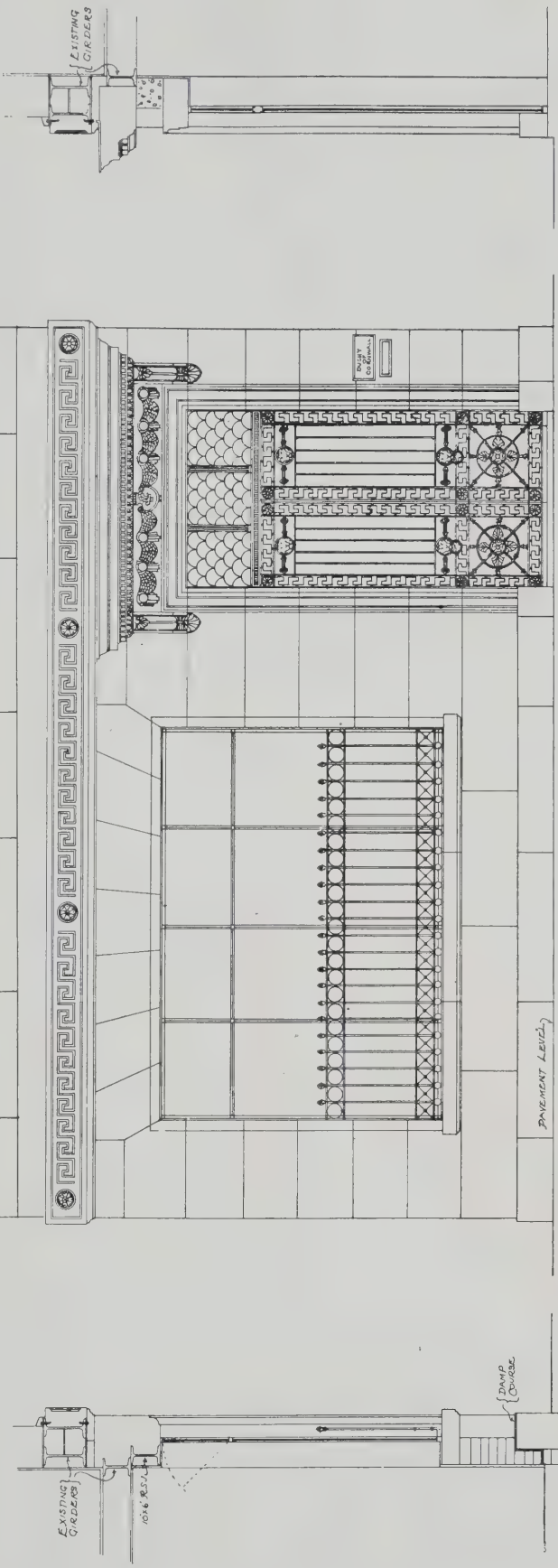
COTTAGES, COURTENAY STREET.



TWO-STORY FLATS, NEWBURN STREET.

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HALF-INCH DETAIL OF THE DUCHY ESTATE OFFICE
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DRAWING NO 172.

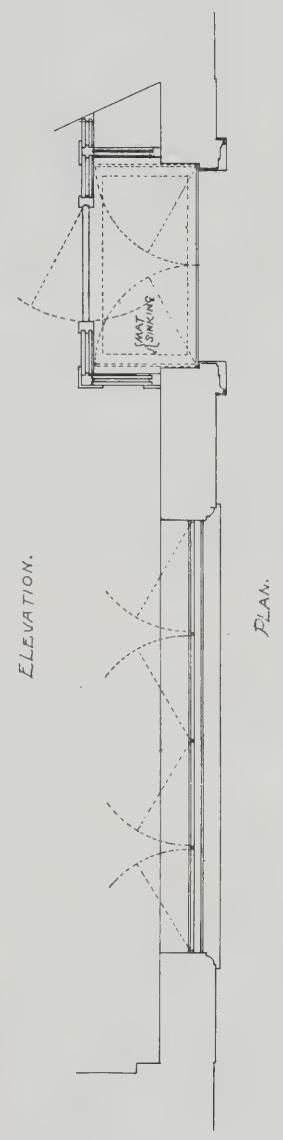


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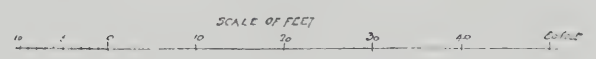
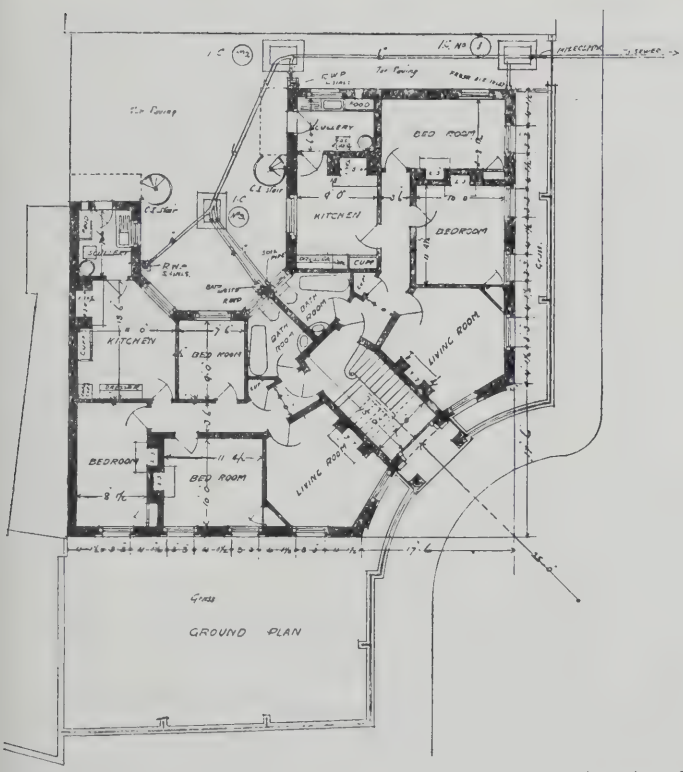
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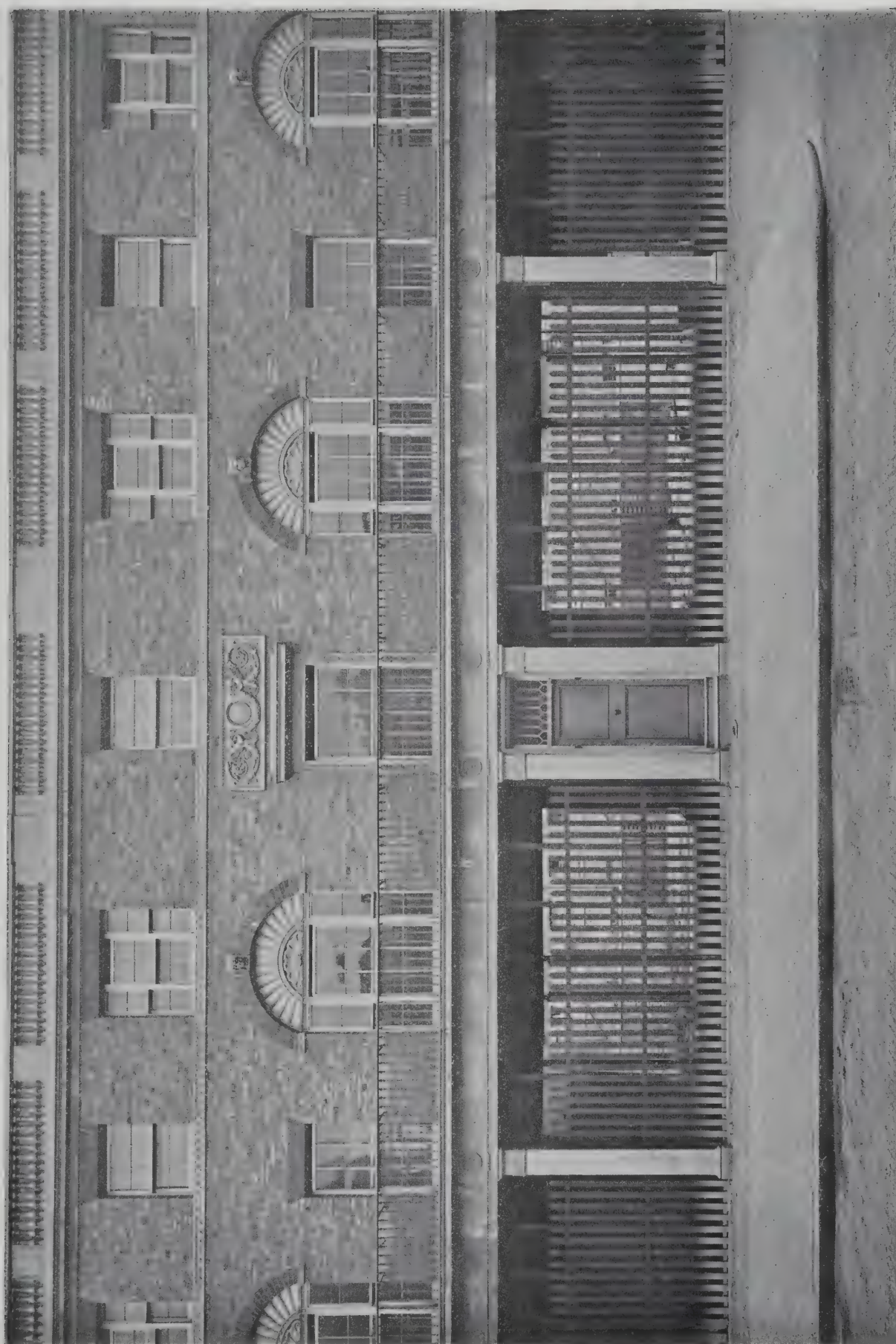
IX.—ESTATE OFFICE, KENNINGTON GATE.



X.—FLATS IN UPPER KENNINGTON LANE AT ENTRANCE TO COURTENAY STREET.



XI.—FLATS IN UPPER KENNINGTON LANE AT ENTRANCE TO COURTENAY STREET: BLOCK ON RIGHT-HAND SIDE.



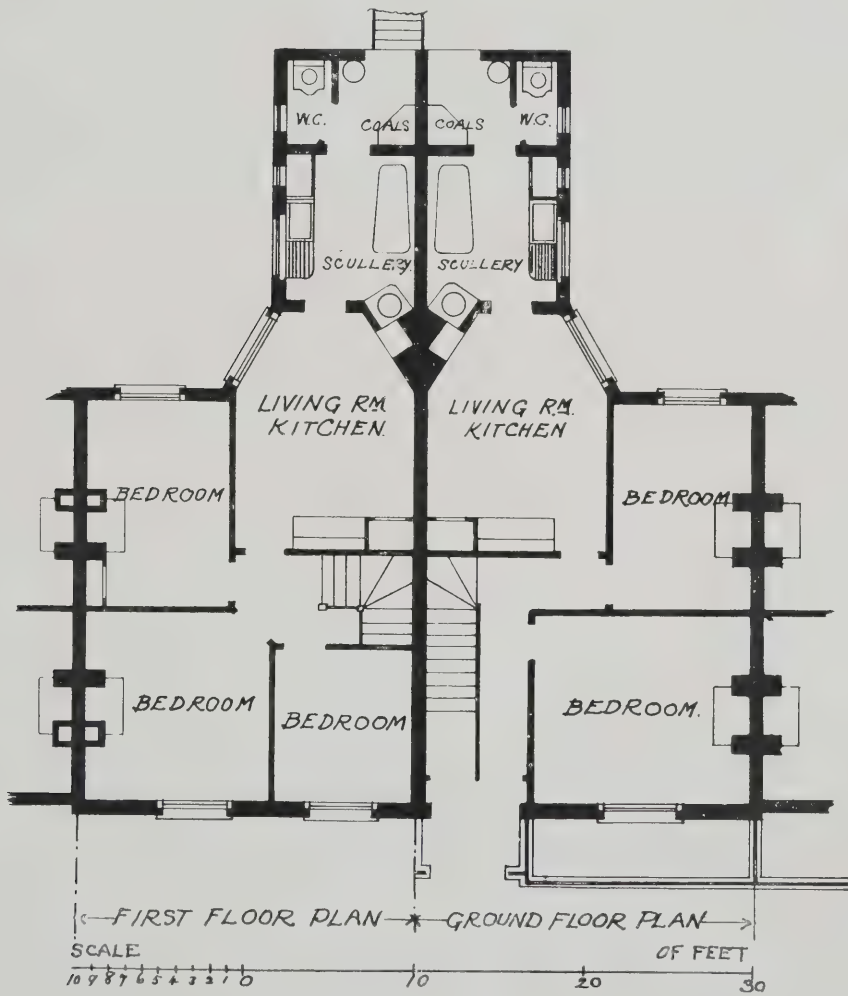
XII.—SHOPS IN UPPER KENNINGTON LANE.



XIII.—BLOCK OF EIGHTEEN FLATS ON NORTH SIDE OF CHESTER STREET.



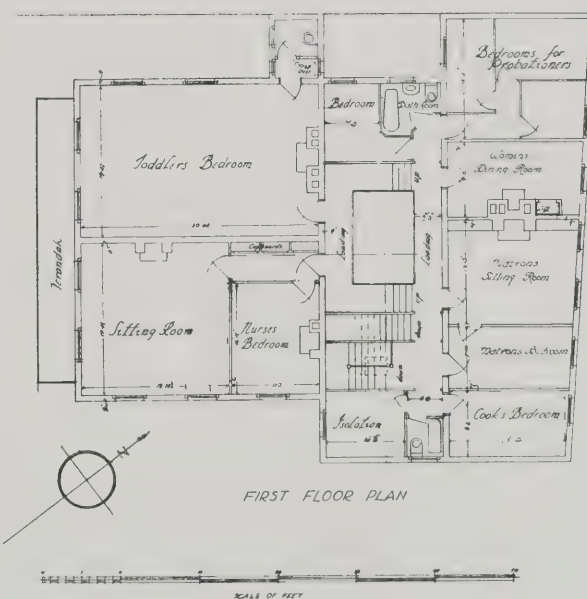
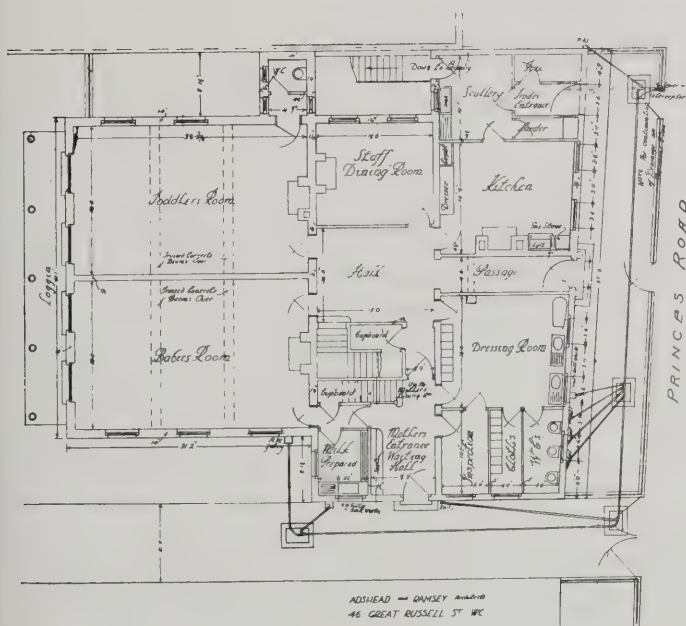
XIV. BLOCK OF TWELVE FLATS AND COTTAGE ON SOUTH SIDE OF CHESTER STREET.



XVI.—TWO-STOREY FLATS, CARDIGAN STREET.



View from Garden.



XVII.—CRÈCHE IN PRINCES' ROAD.

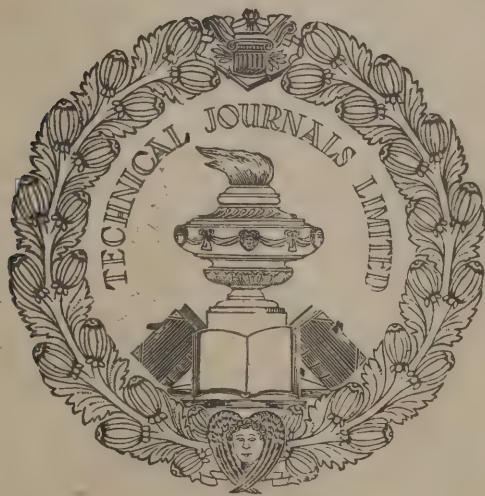


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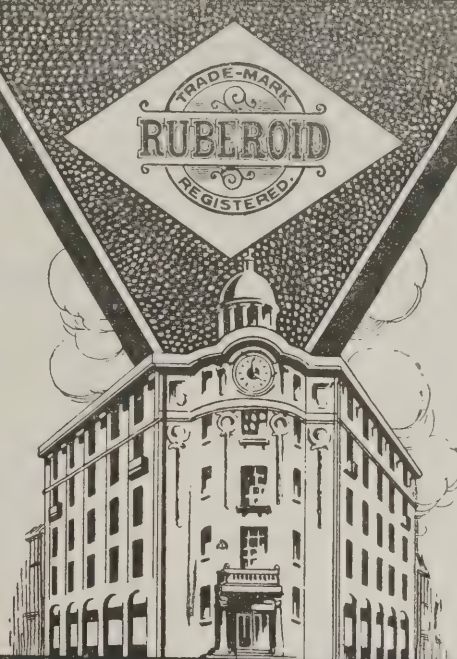
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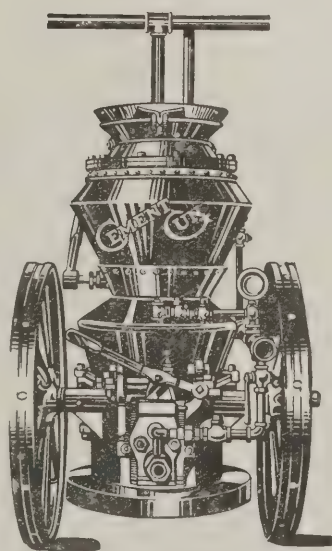
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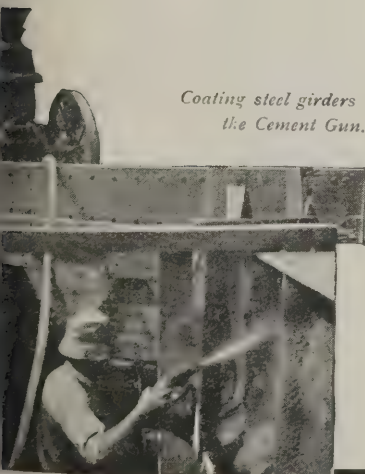
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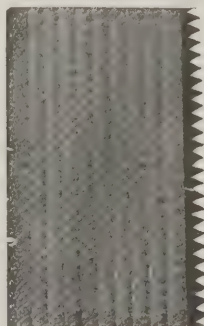
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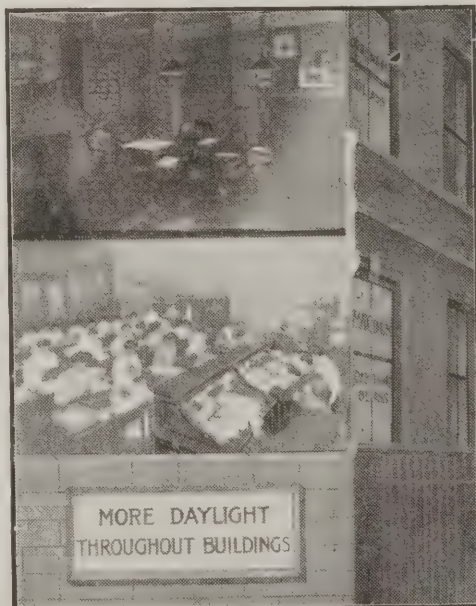
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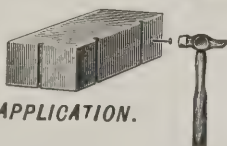
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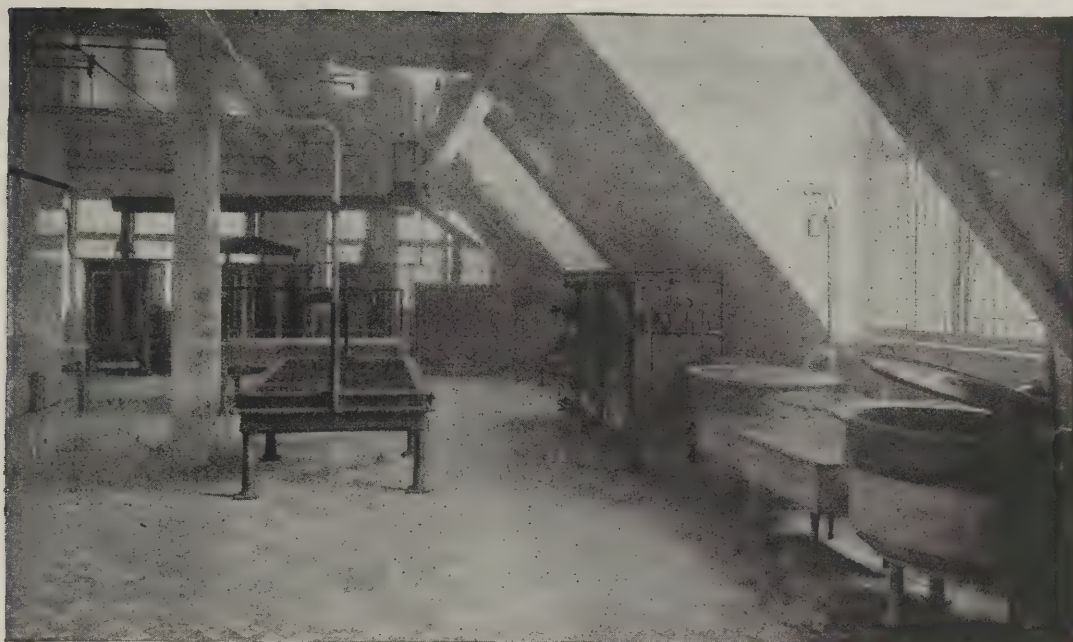


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BUILDING.

December 29.—**REPAIRING, ETC. Tredegar.**—Repairing and renovating the Greyhound Hotel and vaults, etc., Tredegar, for A. Buchan and Co. Particulars from T. Roderick, Architect, Ashbrook House, Aberdare.

December 31.—**SALE RING, ETC. Seamer (Yorks).**—Erection of new sale ring, cattle sheds, and stables for forty horses at the Seamer Auction Mart, including ironwork for their cattle pens and sale ring, for Boulton and Cooper. Names, stating what portion of the work contractors wish to tender to be sent in, not later than December 31, to C. H. Channon, F.R.I.B.A., Architect, Malton, where plans and specifications can be seen on January 11 and 12. Quantities supplied.

January 3.—**CONVERTING. Aberdare.**—Converting the Welsh Harp, Commercial Street, Aberdare, into shop premises, billiard hall, etc. Plans and specification may be seen at the office of T. Roderick, Architect, Ashbrook House, Aberdare, where bills of quantities may be obtained.

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January 4.—**CULVERT. Prestwich (Lancs).**—Construction of a brick culvert, 2 ft. internal diameter, at Orange Hill Tip, Prestwich, for the Urban District Council. Plan, specification, and quantities can be seen at the office of the Surveyor, Chester Bank, between 9 a.m. and 11 a.m., from whom also copies of the bills of quantities can be obtained on deposit of £1 is.

January 7.—**STEEL-FRAME BUILDING. Barking.**—Provision and erection of a steel-frame building covered with corrugated iron, together with brick-lined engine well and appurtenant works, for the Council. Plans and specification may be seen and copies of conditions of contract and forms of tender obtained upon application to R. A. Lay, A.M.I.C.E., acting surveyor to the Council, Public Offices, Barking. Fair wages clause.

January 8.—**HOUSES, ETC. Greenock.**—Erection of dwelling-houses of the cottage type on ground between East Crawford Street and Carwood Street, Greenock, including the formation of the necessary streets and sewers, for the Corporation. Plans and specifications may be obtained from the Burgh Surveyor, Municipal Buildings, Greenock. Tenders are to be for the whole work necessary to complete the building scheme in every detail, the

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December 29.—**PAINTING. Manchester.**—Painting inside of roofs at Harpurhey and Bradford Baths, for the City Council. Specifications may be obtained at the City Architect's Office, Town Hall, upon payment of 10s. 6d.

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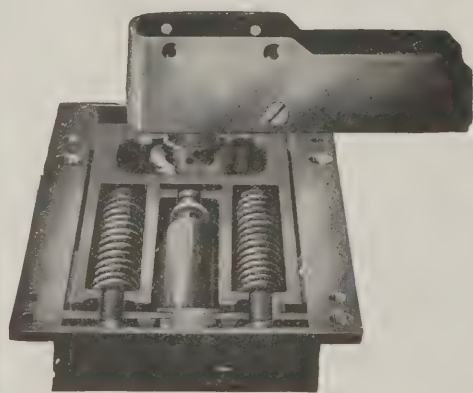
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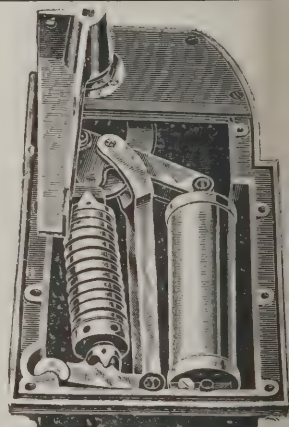
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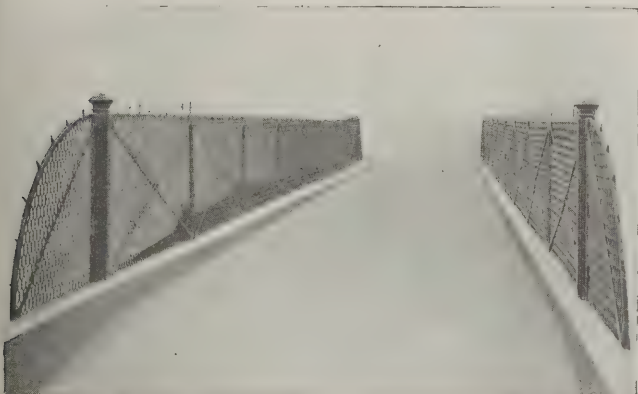
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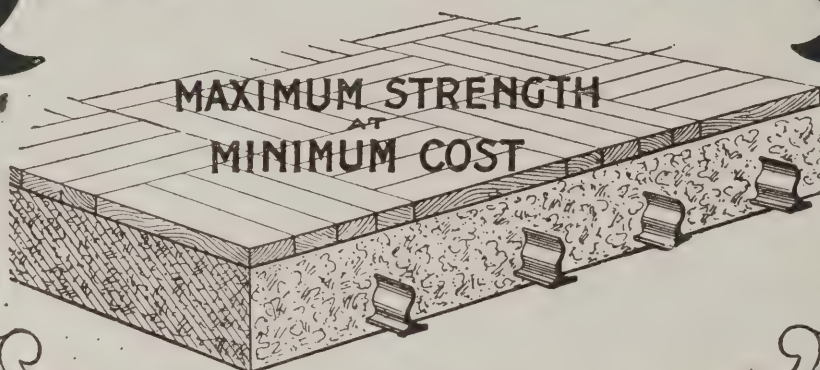
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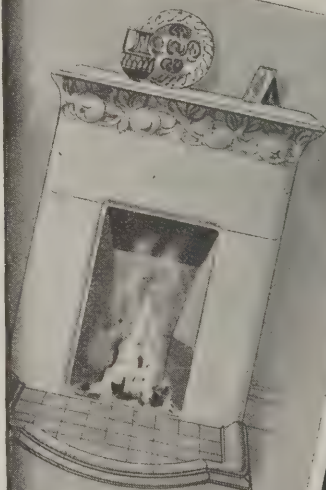


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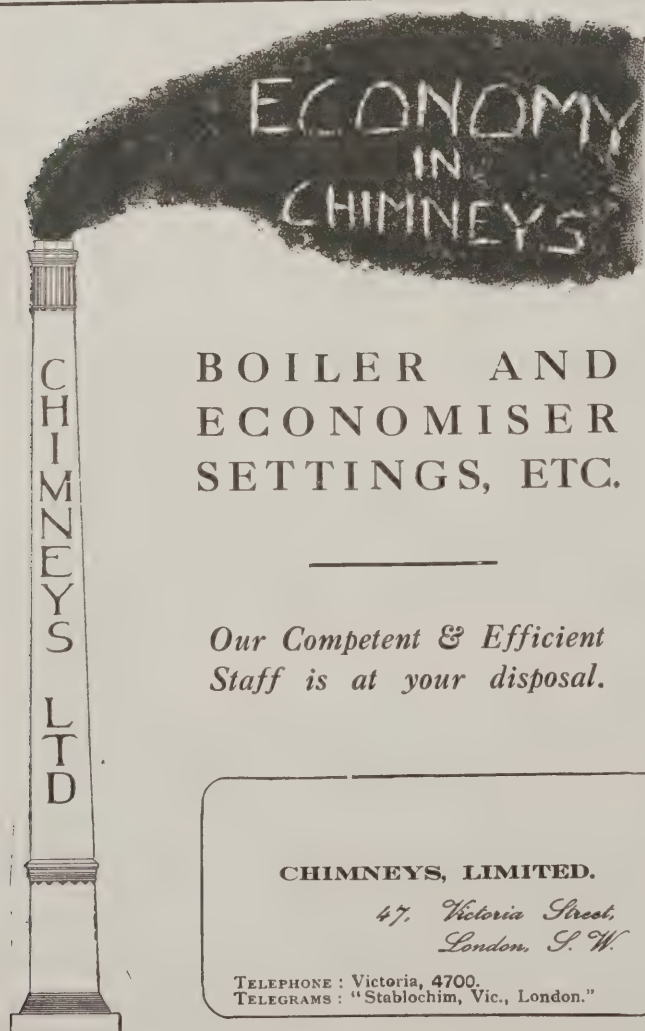
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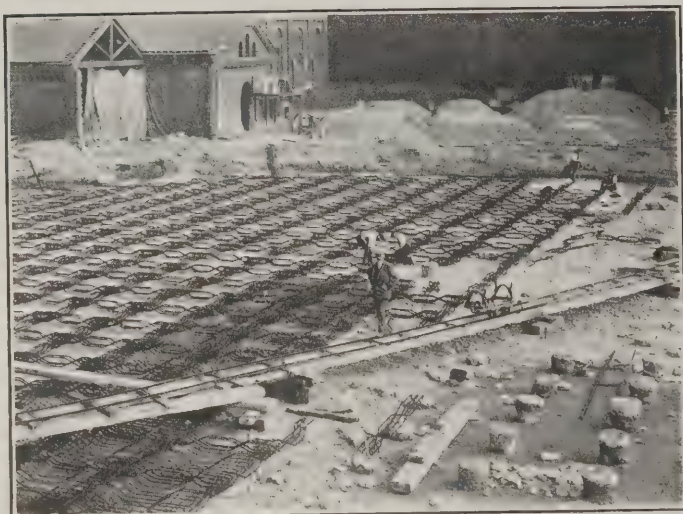
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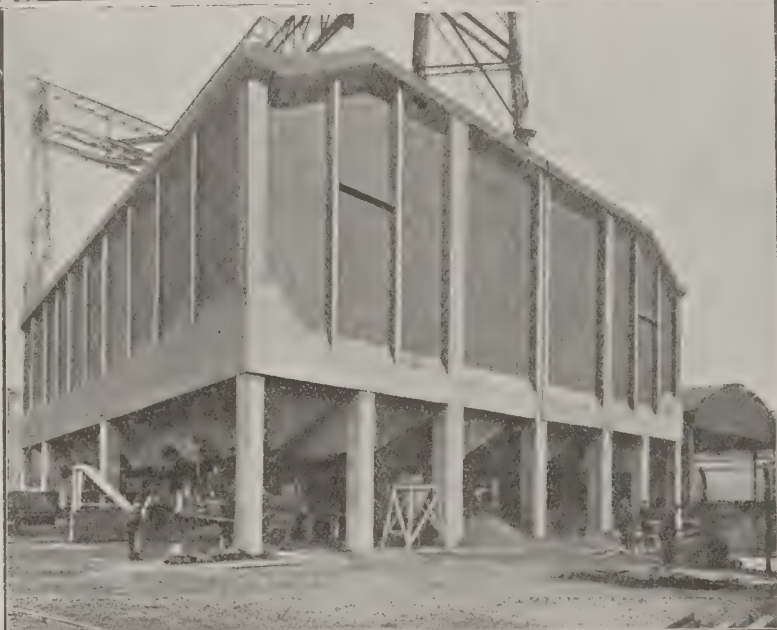
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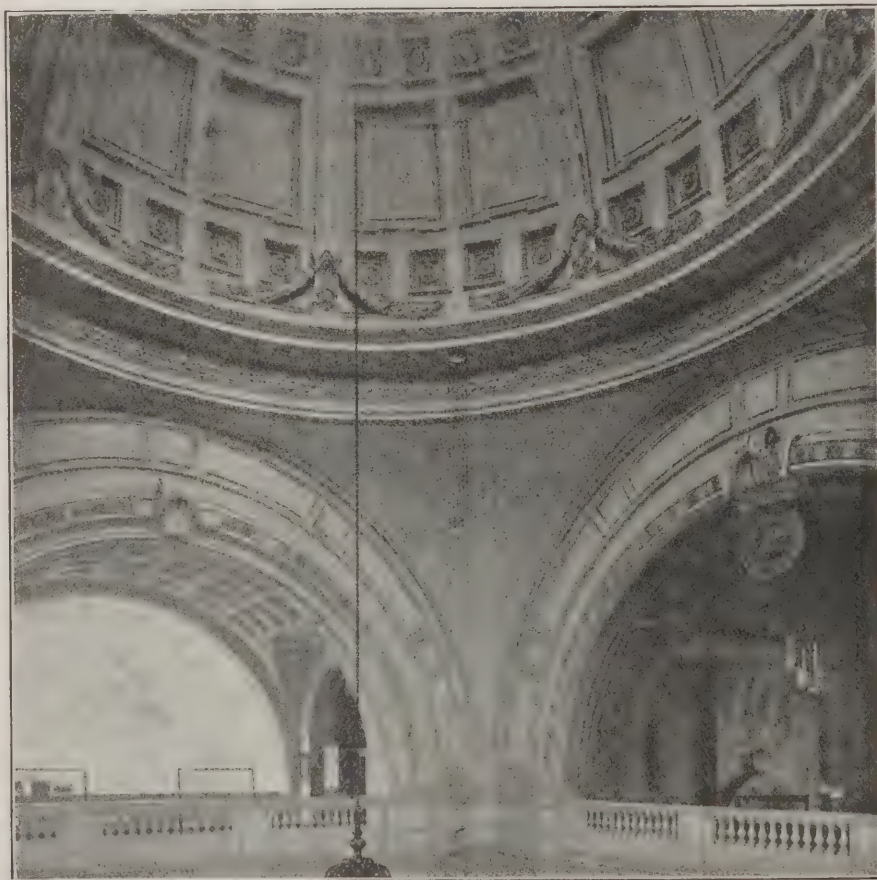
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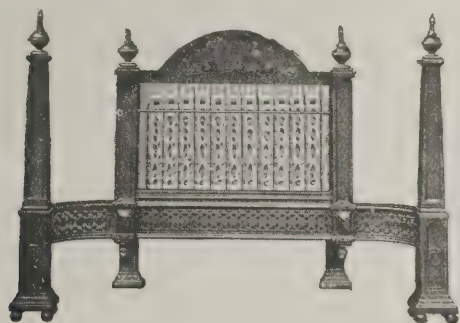
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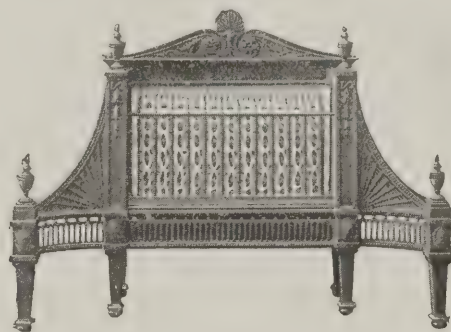


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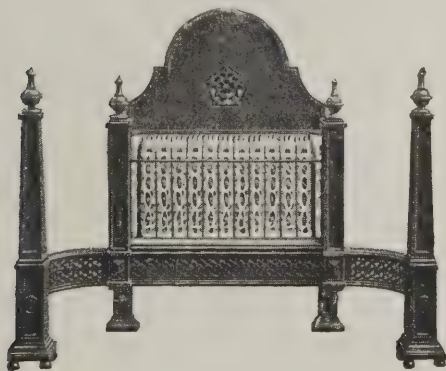


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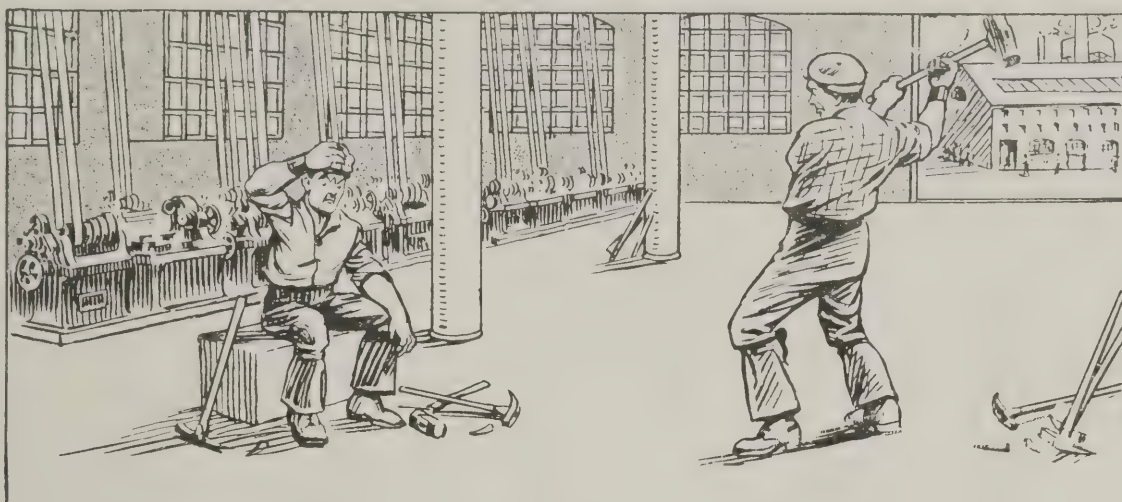
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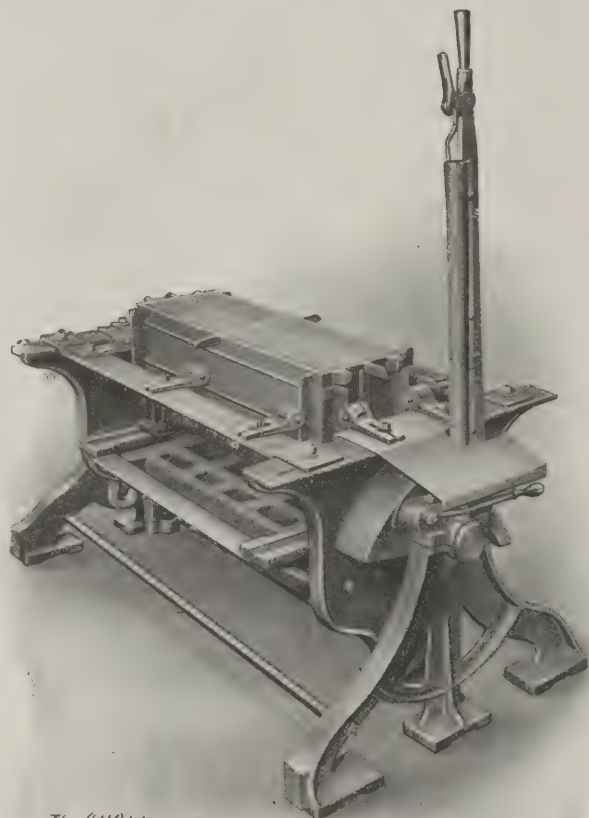
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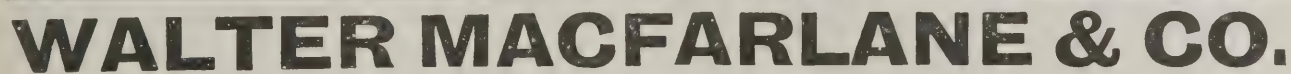
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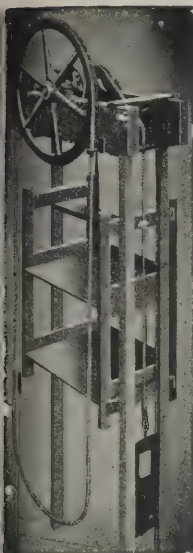
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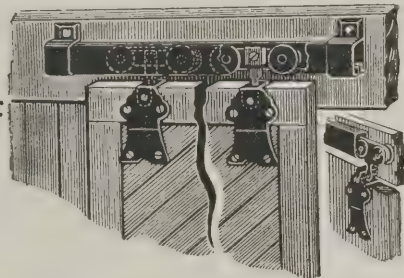
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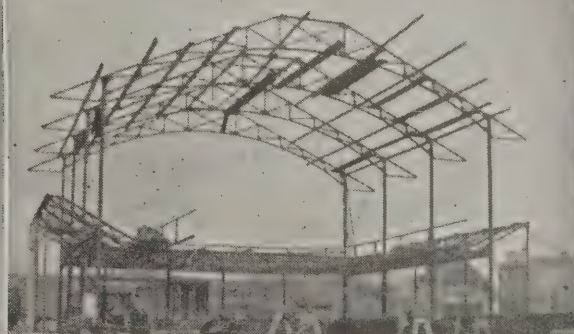
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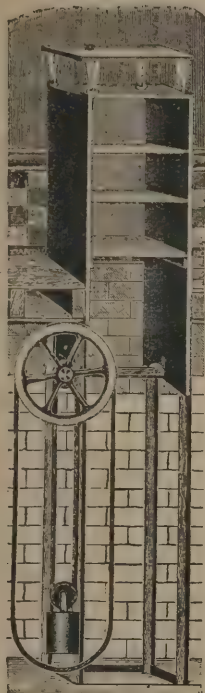
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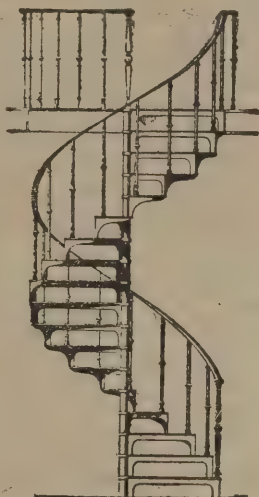
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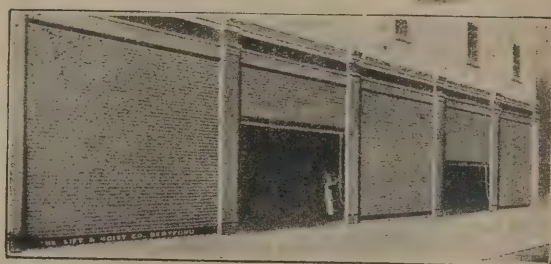
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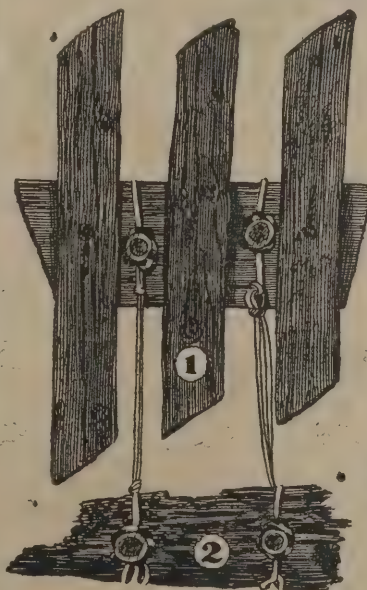
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